Journal of Child and Youth Psychology
Vol 2, Issue 2, 2026, 38-67
Submitted: 30/04/2026 **Accepted**: 22/05/2026

e-ISSN: 3108-530X
Research Article
https://doi.org/10.5281/zenodo.20364291

Turkish Adaptation of the Child and Adolescent Trauma Screen (CATS): Psychometric Evaluation of Child Self-Report and Caregiver Forms Using Exploratory Structural Equation Modeling and Network Analysis

Fatmanur Çimen[1], İsmail Seçer[1]

[1] Department of Psychological Counselling and Guidance, University of Atatürk, Erzurum, Türkiye

Abstract

In this study, the psychometric properties of the Child and Adolescent Trauma Screen (CATS) were examined in a Turkish sample of children and adolescents exposed to earthquake-related trauma, together with their parents. In addition, the structure of post-traumatic stress disorder (PTSD) symptoms and the interrelationships among symptoms were investigated using network analysis. The sample consisted of 233 children aged 7–17 years and 254 parents residing in an earthquake-affected region in Türkiye. Confirmatory Factor Analysis (CFA) and Exploratory Structural Equation Modeling (ESEM) were conducted to evaluate the factorial validity of the CATS based on both DSM-5 and ICD-11 diagnostic frameworks. Model comparisons indicated that ICD-11–based structures generally demonstrated better fit indices than DSM-5–based structures. Moreover, ESEM models consistently outperformed CFA models across both self-report and caregiver-report forms, suggesting that allowing cross-loadings provided a more realistic representation of the latent symptom structure. In addition, network analysis was applied to examine symptom-level associations in both child and parent reports. Dysphoric Arousal and Re-experiencing symptoms emerged as more central nodes across both networks, whereas Avoidance and Anhedonia-related symptoms were relatively more peripheral. Furthermore, centrality analyses suggested that certain symptoms, particularly hyperarousal-related indicators, played a key role in connecting symptom clusters across both child and parent networks. Overall, the findings support the cross-cultural validity of the CATS in Turkish samples, highlight the superiority of ESEM over CFA in modeling PTSD symptom structure, and underscore the value of a multi-informant approach in understanding PTSD symptom organization following earthquake-related trauma.
Keywords: Traumatized child, CATS, ESEM, network analysis.

Özet

Bu çalışmada, deprem kaynaklı travmaya maruz kalmış çocuk ve ergenlerden oluşan Türk örnekleminde ve onların ebeveynlerinde, Çocuk ve Ergen Travma Taraması'nın (Child and Adolescent Trauma Screen; CATS) psikometrik özellikleri incelenmiştir. Ayrıca, travma sonrası stres bozukluğu (TSSB) belirtilerinin yapısı ve belirtiler arasındaki ilişkiler ağ analizi kullanılarak araştırılmıştır. Örneklem, Türkiye'de depremden etkilenmiş bir bölgede yaşayan 7–17 yaş aralığındaki 233 çocuk ile 254 ebeveynden oluşmuştur. CATS'ın faktör yapısal geçerliğini değerlendirmek amacıyla, hem DSM-5 hem de ICD-11 tanı çerçevelerine dayalı olarak Doğrulayıcı Faktör Analizi (DFA) ve Keşfedici Yapısal Eşitlik Modellemesi (ESEM) uygulanmıştır. Modeller arası karşılaştırmalar, ICD-11 temelli yapıların genel olarak DSM-5 temelli yapılara kıyasla daha iyi uyum indeksleri gösterdiğini ortaya koymuştur. Ayrıca, ESEM modellerinin hem öz bildirim hem de ebeveyn bildirim formlarında DFA modellerinden sürekli olarak daha iyi performans göstermesi, çapraz yüklemelere izin verilmesinin örtük belirti yapısını daha gerçekçi biçimde temsil ettiğini göstermektedir. Buna ek olarak, hem çocuk hem de ebeveyn bildirimlerinde belirti düzeyindeki ilişkileri incelemek amacıyla ağ analizi uygulanmıştır. Disforik Uyarılmışlık (Dysphoric Arousal) ve Yeniden Yaşantılama (Re-experiencing) belirtileri her iki ağda da daha merkezi düğümler olarak ortaya çıkarken, Kaçınma (Avoidance) ve Anhedoni ile ilişkili belirtiler görece daha çevresel kalmıştır. Ayrıca, merkezilik analizleri özellikle hiperuyarılmışlıkla ilişkili bazı belirtilerin, hem çocuk hem de ebeveyn ağlarında belirti kümelerini birbirine bağlamada kilit bir rol oynadığını göstermiştir. Genel olarak bulgular, CATS'ın Türk örneklemlerindeki kültürler arası geçerliliğini desteklemekte, TSSB belirti yapısının modellenmesinde ESEM'in DFA'ya üstünlüğünü vurgulamakta ve deprem kaynaklı travma sonrasında TSSB belirtilerinin örgütlenmesini anlamada çoklu bilgi kaynağı yaklaşımının önemini ortaya koymaktadır.
Anahtar Kelimeler: Travmatize çocuk, CATS, ESEM, ağ analizi.

This work is licensed under the Creative Commons Attribution License (CC BY 4.0). It may be shared and reproduced in any medium, provided that appropriate credit is given to the original work.
© 2026 Authors
✉ Corresponding Author: Fatmanur Çimen, f.cimen@atauni.edu.tr

Çocuk ve Ergen Travma Tarama Ölçeği'nin (CATS) Türkçe Uyarlaması: Keşfedici Yapısal Eşitlik Modellemesi ve Ağ Analizi Kullanılarak Çocuk Öz-Bildirim ve Bakım Veren Formlarının Psikometrik Değerlendirmesi

Genişletilmiş Türkçe Özet

Giriş: Travma, bireyin baş etme kapasitesini aşan ölüm, ciddi yaralanma, cinsel şiddet veya benzeri tehdit edici olaylara maruz kalması sonucu ortaya çıkan psikolojik bir durumdur. Deprem, savaş, göç, istismar, ihmal ve doğal afetler gibi yaşantılar çocuk ve ergenlerde travma sonrası stres bozukluğu (TSSB) belirtilerinin gelişmesine yol açabilmektedir. Özellikle çocuklar ve ergenler, gelişimsel özellikleri, sınırlı baş etme becerileri ve bakım verenlere bağımlılıkları nedeniyle travmatik yaşantılara karşı daha kırılgan bir yapı göstermektedir. Türkiye'de son yıllarda yaşanan büyük depremler, çocuk ve ergenlerde travma belirtilerinin değerlendirilmesine yönelik geçerli ve güvenilir ölçme araçlarına duyulan ihtiyacı artırmıştır. Travma sonrası stres bozukluğunun değerlendirilmesinde kullanılan tanı sistemleri arasında DSM-5 ve ICD-11 yaklaşımları önemli farklılıklar göstermektedir. DSM-5 daha geniş ve çok boyutlu bir belirti yapısını benimserken, ICD-11 daha sınırlı ve çekirdek belirtilere dayalı bir yapı önermektedir. Bu durum, TSSB belirtilerinin hangi yapıda daha iyi temsil edildiği konusundaki tartışmaları sürdürmektedir. Son yıllarda yapılan çalışmalar, geleneksel Doğrulayıcı Faktör Analizi'nin (DFA) psikolojik yapıların karmaşık doğasını açıklamada yetersiz kalabileceğini; Keşfedici Yapısal Eşitlik Modellemesi'nin (ESEM) ise maddeler arası çapraz yüklemelere izin vererek daha gerçekçi sonuçlar sunduğunu göstermektedir. Bu çalışmada, Çocuk ve Ergen Travma Tarama Ölçeği'nin (Child and Adolescent Trauma Screen; CATS) Türkçe uyarlamasının psikometrik özellikleri incelenmiştir. Ayrıca ölçeğin çocuk öz-bildirim ve bakım veren formlarında DSM-5 ve ICD-11 temelli faktör yapıları DFA ve ESEM yaklaşımlarıyla karşılaştırılmış, bunun yanında travma belirtileri arasındaki ilişkiler ağ analizi yöntemiyle değerlendirilmiştir.

Yöntem: Araştırma, Türkiye'de Kahramanmaraş merkezli depremlerden etkilenmiş bölgelerde yaşayan 7–17 yaş aralığındaki çocuk ve ergenler ile onların ebeveynlerinden oluşan bir örneklem üzerinde yürütülmüştür. Çalışmaya 233 çocuk/ergen ve 254 ebeveyn katılmıştır. Veriler çevrim içi olarak Google Forms aracılığıyla toplanmıştır. Çocuk grubuna CATS öz-bildirim formu ile Çocuklar için Revize Edilmiş Olay Etkisi Ölçeği (CRIES-13), ebeveyn grubuna ise CATS bakım veren formu ile Çocuk Stres Bozuklukları Kontrol Listesi (CSDC) uygulanmıştır. Ölçeğin yapı geçerliğini incelemek amacıyla hem DSM-5 hem de ICD-11 temelli toplam 10 farklı model DFA ve ESEM yöntemleriyle test edilmiştir. Model uyumu değerlendirilirken χ^2/df, CFI, TLI, RMSEA ve SRMR uyum indeksleri dikkate alınmıştır. Ayrıca modellerin karşılaştırılmasında Akaike Bilgi Kriteri (AIC) kullanılmıştır. Bunun yanında travma belirtileri arasındaki ilişkileri incelemek amacıyla ağ analizi uygulanmıştır. Ağ analizinde belirtiler düğüm (node), belirtiler arası ilişkiler ise kenar (edge) olarak değerlendirilmiştir. Merkezilik analizlerinde derece, yakınlık, aracılık ve beklenen etki indeksleri hesaplanmıştır. Ayrıca çocuk ve ebeveyn ağlarının farklılaşıp farklılaşmadığını incelemek amacıyla Ağ Karşılaştırma Testi (NCT) uygulanmıştır.

Bulgular: Araştırma bulguları, ICD-11 temelli modellerin genel olarak DSM-5 temelli modellere göre daha iyi uyum değerleri verdiğini göstermiştir. Bununla birlikte hem çocuk öz-bildirim hem de bakım veren formlarında ESEM modellerinin DFA modellerinden daha üstün sonuçlar sunduğu belirlenmiştir. Özellikle ICD-11 temelli iki faktörlü ESEM modeli ile DSM-5 temelli yedi faktörlü ESEM modeli en iyi uyum değerlerine sahip modeller olarak öne çıkmıştır. ESEM modellerinde faktörler arası korelasyonların DFA modellerine kıyasla daha düşük olması, ESEM yaklaşımının daha güçlü ayırt edici geçerlik sağladığını göstermektedir. Ayrıca bazı maddelerin farklı faktörlerde çapraz yüklenme göstermesi, TSSB belirtilerinin birbirleriyle ilişkili ve örtüşen bir yapıya sahip olduğunu ortaya koymuştur. Ölçüt bağıntılı geçerlik analizlerinde, CATS öz-bildirim formunun CRIES-13 ile; bakım veren formunun ise CSDC ile yüksek düzeyde pozitif ilişkiler gösterdiği belirlenmiştir. Bu bulgu, ölçeğin benzer psikolojik yapıları başarılı şekilde ölçtüğünü desteklemektedir. Ağ analizi sonuçları, hem çocuk hem de ebeveyn ağlarında belirtiler arasında yoğun ilişkiler bulunduğunu göstermiştir. Özellikle "kolay irkilme ve aşırı tetikte olma" gibi hiperuyarılmışlık belirtileri ağın en merkezi belirtileri arasında yer almıştır. Yeniden yaşantılama ve disforik uyarılmışlık belirtileri ağ içinde merkezi konumda bulunurken, kaçınma ve anhedoni belirtileri daha çevresel konumda yer almıştır. Çocuk ağında olumsuz duygulanım ve kişilerarası uzaklaşma belirtileri daha merkezi görünürken, ebeveyn ağında dışsallaştırıcı davranışlar ve hiperuyarılmışlık belirtilerinin daha belirgin olduğu görülmüştür. Bu durum, çocukların travmayı daha çok içsel duygusal süreçlerle deneyimlediğini; ebeveynlerin ise davranışsal belirtileri daha kolay gözlemlediğini düşündürmektedir. Ağ Karşılaştırma Testi sonuçları, çocuk ve ebeveyn ağ yapıları arasında anlamlı bir farklılık olmadığını göstermiştir. Her iki ağın genel bağlantı gücü birbirine oldukça yakın bulunmuştur.

Tartışma: Çalışma bulguları, CATS'ın Türkçe öz-bildirim ve bakım veren formlarının geçerli ve güvenilir ölçme araçları olduğunu göstermektedir. Bulgular ayrıca ESEM yaklaşımının TSSB belirtilerinin yapısını açıklamada DFA'ya göre daha başarılı olduğunu ortaya koymaktadır. Bunun yanında çocuk ve ebeveyn değerlendirmelerinin birlikte kullanılmasının travma belirtilerinin daha kapsamlı biçimde değerlendirilmesine katkı sağladığı sonucuna ulaşılmıştır.

Introduction

Trauma refers to exposure to actual or threatened death, serious injury, sexual violence, or other overwhelming events that exceed an individual's coping capacity, whereas a traumatic experience reflects the individual's subjective emotional and psychological response to such events (APA, 2013). Traumatic experiences may arise from a wide range of situations, including natural disasters, wars, terrorist attacks, pandemics, migration, parental loss, accidents, domestic violence, abuse, and neglect (Chafouleas et al., 2019). Exposure to trauma may occur directly by experiencing the event, indirectly by witnessing the event, learning that it occurred to a loved one, or repeatedly confronting aversive details of the trauma (APA, 2013). Because traumatic experiences can emerge in multiple forms and contexts, trauma exposure has become a widespread global public health concern.

Epidemiological studies indicate that traumatic experiences are highly prevalent worldwide. For example, Kessler et al. (2017) reported that approximately one-third of the global population experiences at least one traumatic event during their lifetime. Beyond global findings, trauma exposure has become particularly salient in Türkiye due to repeated exposure to earthquakes and other natural disasters. Recent earthquakes in Türkiye have resulted in significant psychological consequences among affected individuals, particularly children and adolescents (Çimen et al., 2026). Earthquakes are considered particularly traumatic because they involve sudden destruction, loss of loved ones, displacement, disruption of social support systems, and ongoing uncertainty regarding safety and survival. Exposure to traumatic experiences is associated with several adverse mental health outcomes, among which post-traumatic stress disorder (PTSD) is one of the most severe and prevalent conditions (van den Hout & Engelhard, 2004). According to the DSM-V, PTSD is characterized by symptoms of intrusion, avoidance, negative alterations in cognition and mood, and alterations in arousal and reactivity that persist for more than one month following trauma exposure (APA, 2013). PTSD frequently co-occurs with other psychiatric disorders such as depression, anxiety disorders, substance use disorders, sleep disturbances, and suicidal ideation, further increasing functional impairment and reducing quality of life (Miller & Sadeh, 2014; Çimen et al., 2026). In recent years, studies have also documented elevated PTSD symptoms following large-scale traumatic events such as the COVID-19 pandemic, wars, forced migration, and natural disasters (Zhang et al., 2021; Çimen et al., 2025).

Children and adolescents are particularly vulnerable to developing PTSD symptoms because of their limited coping skills, dependence on caregivers, and developmental immaturity in understanding and managing threatening experiences (Lieberman & Van Horn,

2009; McLaughlin et al., 2013). Beyond psychological distress, PTSD symptoms in children are associated with significant impairments in emotional regulation, peer relationships, academic functioning, physical health, and long-term developmental adjustment (Alisic et al., 2014). Studies have shown that children with PTSD symptoms may experience concentration difficulties, school absenteeism, social withdrawal, behavioral problems, and reduced academic achievement. Therefore, identifying PTSD symptoms in trauma-exposed children and adolescents is critically important for early intervention and prevention of long-term psychosocial difficulties (Nilsson et al., 2021; Çimen & Seçer, 2026).

While trauma and the subsequent development of PTSD have always been present throughout human history, their diagnosis has undergone significant changes over time (APA, 1980; APA, 1994; APA, 2013). Importantly, DSM-V and ICD-11 conceptualize PTSD using different symptom structures, which has implications for both diagnosis and measurement. DSM-V adopts a broader, multi-cluster structure including re-experiencing, avoidance, negative alterations in cognition and mood, and arousal, whereas ICD-11 proposes a more parsimonious model focusing on three core symptom clusters and separates complex PTSD as a distinct clinical entity (Maercker et al., 2013). This divergence reflects an ongoing debate between a broader vs. more focused conceptualization of PTSD, which in turn directly motivates the need to test alternative factorial structures in measurement research, as different models may capture symptom organization differently in various populations.

These differences in definitions for PTSD have also led to variations in the measurement tools used. In the literature, measurement tools used for diagnosing PTSD are distinguished as either ICD-based (e.g., International Trauma Questionnaire (Cloitre et al., 2018)) or DSM-based (e.g., Posttraumatic Stress Disorder Checklist for DSM-V (Weathers et al., 2013)), and there are variations even among DSM versions. DSM-V increased the number of symptom clusters from three to four, and the number of symptoms from 17 to 20, thereby significantly altering the symptomatology of post-traumatic stress from DSM-IV to DSM-V. However, many measurement tools used in diagnosing PTSD in the literature can still be based on DSM-IV criteria (Pai et al., 2017). Since the publication of DSM-V, various studies have proposed alternative models aiming to define the factor structure underlying PTSD (Hansen et al., 2015; Armour et al., 2015; Pietrzak et al., 2015; Soberon et al., 2016). Therefore, while there are many measurement tools developed for diagnosing PTSD (Cohen, 2010; Dowdy-Hazlett et al., 2021), there is no clarity on what the most suitable approach is to measure it (Saini et al., 2019).

It has been reported that existing trauma screenings lack measurement both in terms of symptomatology and experiences (Dowdy-Hazlett et al., 2021), and it has been suggested to revise existing assessment tools or develop new ones to implement the new symptom criteria proposed for DSM-V (Nilsson et al., 2020). Moreover, it is observed that existing measurements rely on a single data collection method, either self-report or parent report (Eklund et al., 2018). However, since parent and child reports differ in trauma assessment, conducting parallel evaluations is seen as beneficial for a comprehensive understanding of trauma (Dowdy-Hazlett et al., 2021). In this regard, ensuring valid and reliable measurement tools that meet these criteria and can be used as standards is considered important for evaluating trauma symptoms, conducting follow-ups in clinical practice, and developing effective interventions, aiding both clinicians and researchers. At this point, a team of researchers from three different countries, namely the United States, Germany, and Norway, recently developed The Child and Adolescent Trauma Screen (CATS) to measure traumatic experiences and symptomatology in children and adolescents based on DSM-V (Sachser et al., 2017).

CATS is an internationally used screening instrument developed to assess trauma exposure and post-traumatic stress disorder (PTSD) symptoms in children and adolescents in accordance with DSM-V criteria (Sachser et al., 2017). The scale has been adapted into several languages and cultural contexts and has demonstrated satisfactory psychometric properties across different populations (Sachser et al., 2017; Akkuş et al., 2021). In the context of Türkiye, and particularly following large-scale earthquake disasters, CATS is especially important because it provides a brief, standardized, and developmentally appropriate screening tool that can be rapidly administered in emergency and post-disaster settings where early identification of PTSD symptoms in children is critical. Because PTSD symptoms in children may manifest differently across sociocultural contexts, the availability of culturally sensitive and psychometrically sound assessment tools is critically important for accurate screening and intervention planning.

In Türkiye, the need for valid and reliable PTSD assessment tools for children and adolescents has become increasingly important due to repeated exposure to traumatic events such as earthquakes, forced migration, accidents, and community disasters. Particularly following recent major earthquakes in Türkiye, there has been a growing need for rapid, accessible, and culturally appropriate screening instruments to identify trauma-related symptoms among affected children and adolescents. Although several PTSD-related measures have previously been adapted into Turkish, there remains a need for brief and internationally

comparable screening tools specifically designed for children and adolescents and aligned with contemporary diagnostic frameworks.

In addition to cultural adaptation, evaluating the factorial validity of trauma-related assessment tools remains an important methodological issue. Previous studies examining the factor structure of CATS have generally relied on confirmatory factor analysis (CFA) and reported acceptable fit for different factor models (Nilsson et al., 2021; Lehmann et al., 2020). However, recent psychometric literature has emphasized that exploratory structural equation modeling (ESEM) may provide a more flexible and realistic representation of psychological constructs by allowing cross-loadings between items (Marsh et al., 2014; van Zyl & ten Klooster, 2022). Therefore, examining the Turkish version of CATS using both CFA and ESEM approaches may contribute to a more comprehensive evaluation of its factorial validity. Accordingly, the present study aimed to examine the psychometric properties of the Turkish version of the CATS in a sample of children and adolescents exposed to earthquake-related traumatic experiences in Türkiye.

A key strength of the CATS is that it includes both self-report and caregiver-report forms, enabling a multi-informant assessment of PTSD symptoms in children and adolescents. This approach is particularly important because children's internal emotional experiences may not always be fully observable to caregivers, while caregivers may better report externalizing and behaviorally visible symptoms. Therefore, using both forms allows for a more comprehensive and clinically informative assessment of trauma-related symptomatology. In the present study, the use of both child and parent reports contributes to a more robust evaluation of PTSD symptoms in a trauma-exposed pediatric sample.

In addition to examining the symptom structure of PTSD, investigating the relationships between symptoms is important for understanding and intervening in PTSD for both clinicians and researchers (Benfer et al., 2021). The network approach to psychopathology, which has become popular in recent years, provides a comprehensive perspective on examining the relationships between symptoms, offering a unique opportunity to understand complex relationships (Birkeland et al., 2020; Robinaugh et al., 2020). Network analysis portrays symptoms as nodes and visualizes how activation of one symptom node can influence and activate other nodes (Cramer et al., 2010; Borsboom, 2017). Essentially, this allows for the identification of central and influential symptoms that may play a key role in the emergence and maintenance of PTSD. From a clinical perspective, identifying such central symptoms may inform treatment planning by highlighting potential intervention targets that could have cascading effects on the overall symptom network. Given these advantages, the

network perspective has gained increasing attention among PTSD researchers in recent years. Accordingly, this study examined PTSD symptom structures in children aged 7–17 using both self-report and parent-report data.

Method

Ethical approval for this study was obtained from the Ethics Committee of Atatürk University prior to data collection (No: E.88656144-000-2500168930; Date: 26.05.2025), and all procedures were conducted in accordance with the ethical principles for research involving human participants. Given that the study involved children and adolescents under the age of 18 and addressed potentially distressing traumatic experiences, particular attention was paid to ethical sensitivity, including the protection of participant confidentiality, voluntary participation, and appropriate informed consent/assent procedures.

Research Sample

The research sample consists of children and adolescents aged 7-17 who have been exposed to the earthquakes that occurred in Kahramanmaraş, Türkiye, on February 6, 2024, and reside in that region, as well as parents of children aged 7-17 who also experienced the earthquake and reside in the same area. For data collection, two separate forms were created using Google Forms for children and parents, respectively. In addition to the demographic information form, participants in the child group completed the CATS and CRIES-13 measures, while participants in the parent group completed the CATS-C and CSDC measures. During the data collection phase, parents were contacted and data were collected from the children if the parents gave permission. In the introduction of the form, the participants were informed that participation in the research is voluntary and that the information collected within the scope of the research will ensure confidentiality and reliability. Demographic information pertaining to the sample reached in the study is presented in Table 1.

Table 1. Demographic information of participants

Variable	Child and Adolescent *(n = 233)*	Parent *(n = 254)*
Gender		
Female, *n* (%)	147 (63.1)	164 (64.6)
Male, *n* (%)	86 (36.9)	90 (35.4)

Note. Percentages are presented in parentheses.

Measures

Child and Adolescent Trauma Screen (CATS) - 7-17: The scale developed based on the DSM-V (Sachser, et al., 2017) is a tool used to screen for PTSD symptoms in children and adolescents following potential traumatic events, including re-experiencing, avoidance, negative alterations in mood and cognition, and hyperarousal. The scale consists of three sections: a 15-item checklist of potential traumatic events experienced, a 20-item 4-point Likert scale (0: Never, 3: Almost Always) rating scale for reporting the extent of post-traumatic stress symptoms, and finally, a checklist to identify areas affected by the traumatic event(s). The total score on the scale ranges from 0 to 60, with a cutoff score of ≥21 indicating clinically significant symptom levels. The scale, used in various studies internationally, is reported to have strong validity and reliability, making it suitable for use in both clinical and research settings (Dowdy-Hazlett et al., 2021). While the child form of the scale can be self-administered, the parent form involves the parent reporting the symptoms observed in their child. (https://ulmer-onlineklinik.de/).

CRIES-13: The scale developed by the Children and War Foundation is used to measure PTSD symptoms in children and adolescents. The scale consists of 13 items rated on a 5-point Likert scale (0: Not at all, 4: Very often), organized into three dimensions: intrusive thoughts, avoidance, and arousal. The total score on the scale ranges from 0 to 65, with a cutoff score of ≥30 used as a reference value for detecting PTSD. In the adaptation study of the scale into Turkish, it was indicated that the scale has sufficient validity and reliability and can be used to detect PTSD in children exposed to traumatic experiences (Çeri et al., 2021).

Child Stress Disorders Checklist: This is an observer-reported tool that measures traumatic stress symptoms in children aged 2-18, assessing them in two dimensions: acute stress disorder and post-traumatic stress disorder. It consists of 30 symptom items rated on a 3-point Likert scale (0: Not true, 2: Very true), measuring re-experiencing, increased arousal, avoidance, numbing, dissociation, and impairment in functionality. Analyses have reported that the scale is reliable and valid (Saxe et al., 2003). The findings obtained from the confirmatory factor analysis conducted in the Turkish adaptation study of the scale showed a good fit between the 5-item acute and 25-item symptom forms. In the internal consistency (Cronbach alpha) analyses performed to determine the reliability of the scale, the Acute (α=.83) and Symptom form (α=.96) as well as the sub-dimensions of the Symptom form such as Re-experiencing (α=.84), Avoidance (α=.83), Numbing and Dissociation (α=.90), Increased Arousal (α=.84) and Impairment in Functioning (α=.81) were reported reliable. As a result, the scale is a valid and reliable measurement tool in Turkish culture (Seçer et al., 2024).

Data Analysis

Construct Validity

In evaluating the structural validity of CATS, ten models were examined based on different factorial structures reported in the literature, comprising five ICD-11-based and five DSM-V-based models using both CFA and ESEM approaches. Specifically, the original four-factor model proposed in the initial validation study of CATS, which has demonstrated good fit in previous research (Sachser et al., 2017; Nilsson et al., 2021), was tested alongside three ICD-11-based models and seven-factor DSM-V-based models that have previously shown favorable psychometric properties.

In the comparison of CFA and ESEM models, ESEM was preferred when it demonstrated superior model fit relative to the corresponding CFA model, defined by changes in fit indices (ΔCFI, ΔTLI ≤ −.010 and ΔRMSEA ≥ .015), together with lower factor correlations. When these criteria were not met, the more restrictive CFA solution was retained as the preferred model (Marsh et al., 2014).

Model fit was evaluated using standard cutoff criteria, where values above .95 for CFI and TLI indicate excellent fit, values above .90 indicate acceptable fit, and values below .05 for RMSEA and SRMR indicate excellent fit (Asparouhov & Muthén, 2009). All CFA and ESEM analyses were conducted using Mplus Version 8.10. The maximum likelihood (ML) estimator was applied, and target rotation was used in ESEM models to minimize cross-loadings by rotating them toward zero while allowing primary loadings to be freely estimated (Asparouhov & Muthén, 2009; Morin et al., 2015).

In ESEM models, primary factor loadings were freely estimated, whereas cross-loadings were constrained to be as close to zero as possible to maintain a confirmatory modeling structure. Model comparison was based on both relative fit indices and information criteria. Due to its sensitivity to sample size, the Bayesian Information Criterion (BIC) was not prioritized in model comparisons; instead, the Akaike Information Criterion (AIC) was used as the primary index for model selection (Raftery, 1995; Akaike, 1974). Lower AIC values indicated better model fit and a higher likelihood of replication, with models showing lower AIC values considered superior to competing alternatives with fewer estimated parameters (Kline, 2016).

Network Analysis

To identify central elements in the CATS scale and evaluate the interaction between variables, network analysis was conducted. Network analysis was performed using JASP 0.11.1.0 (JASP Team, 2019) with the least absolute shrinkage and selection operator (LASSO) regularization and λ = 0.50 adjustment parameter, utilizing the Extended Bayesian Information Criterion (EBICglasso). The network models were estimated separately for parents and children. In both networks, the items of the CATS scale were represented as nodes, and the associations between nodes were depicted as edges. Thicker edges indicate stronger associations. Partial correlations were used in the estimation of network models based on cross-sectional data, resulting in partial correlation networks.

Centrality indices were computed to identify the most influential symptoms within the network structure. Specifically, degree, closeness, betweenness, and expected influence were examined. Degree centrality reflects the number of direct connections a node has with other nodes, closeness centrality indicates how easily a node can be reached from all other nodes in the network, and betweenness centrality represents the extent to which a node lies on the shortest paths between other nodes. Expected influence was also calculated to capture both the number and strength of all connections, including negative associations, reflecting the overall impact of a node within the network (Bringmann et al., 2019; Bloch et al., 2023).

Network Comparison Test (NCT) was used to compare the parent and child networks. Network structure invariance (M) and global strength (S) were examined to determine whether the overall network structure and overall connectivity differed between groups. M indicates whether the configuration of connections is invariant across groups, whereas S reflects differences in the overall strength of associations within the networks.

Results

Before beginning the data analysis, descriptive statistics of the dataset were examined to evaluate the dataset in terms of outliers, skewness, and kurtosis, and to assess whether it met the conditions for parametric tests. The obtained values are presented in Table 2.

Table 2. Descriptive statistics

	Mean	sd	Skew.	Kurt.
CATS Caregiver	23.30	14.25	.67	.23
RE	6.03	3.66	.71	.17
AVO	2.46	1.78	.44	-.64
NACM	7.76	5.47	.68	-.05
HYP	7.04	4.52	.50	-.18
CATS Self-Report	57.64	26.98	-.18	-.54
RE	6.58	3.58	.08	-.38
AVO	2.67	1.67	.07	-.79
NACM	8.23	4.69	.17	-.34
HYP	7.10	4.08	.31	-.20
CSDC	26.61	16.06	.58	-.47
RE	6.54	3.87	.39	-.62
AVO	2.85	2.57	.69	-.68
NUDI	5.13	2.99	.09	-.93
INAR	6.21	4.97	.66	-.68
IMFU	5.88	3.50	.19	-.97
CRIES-13	33.94	15.73	-.31	-.58
INT	10.44	5.69	-.12	-.83
AVO	10.00	6.03	-.02	-1.09
ARO	13.50	6.82	-.20	-.94

**RE: Reexperiencing, AVO: Avoidance, NACM: Negative Alterations in Mood and Cognitions, HYP: Hyperarousal, NUDI: Numbing and Dissociation, INAR: Increased Arousal, IMFU: Impairment in Function, INT: Intrusion, ARO: Arousal*

Upon examination of Table 2, it is observed that the skewness values range from -0.310 to 0.712, and the kurtosis values range from -1.096 to 0.239. It is concluded that the data are normally distributed.

Factor Structure

The goodness-of-fit index values obtained for these models are presented in Table 3.

Table 3. Goodness-of-fit index values for the Models

MODEL	MEASUREMENT	X^2	df	CFI	TLI	SRMR	RMSEA [90% CI]	AIC
	CATS SELF-REPORT							
ICD-11 BASED MODELS	Model 1 (Single factor CFA)	23.49	9	.97	.95	.03	.08 [.04-.12]	3320.04
	Model 2 (2 Factor CFA)	20.59	8	.97	.95	.02	.08 [.03-.12]	3319.14
	Model 3 (2 Factor ESEM)	0.00	0	1.00	1.00	.00	.00 [.00-.00]	3314.55
	Model 4 (3 Factor CFA)	18.85	6	.97	.93	.02	.09 [.04-.14]	3321.40
	Model 5 (3 Factor ESEM)	0.00	0	1.00	1.00	.00	.00 [.00-.00]	3408.65
DSM V BASED MODELS	Model 6 (Single Factor CFA)	475.26	17	.84	.83	.05	.08 [.07-.09]	11118.55
	Model 7 (4 Factor CFA)	365.63	16	.90	.88	.05	.07 [.06-.08]	11020.92
	Model 8 (4 Facotr ESEM)	203.19	11	.95	.92	.03	.05 [.04-.07]	10954.48
	Model 9 (7 Factor CFA)	2193.46	19	.94	.93	.04	.05 [.04-.06]	10940.74
	Model 10 (7 Factor ESEM)	85.40	71	.99	.98	.01	.03 [.00-.05]	10926.69
	CATS CAREGIVER							
ICD-11 BASED MODELS	Model 11 (Single Factor CFA)	20.14	9	.98	.97	.02	.07 [.02-.11]	3401.08
	Model 12 (2 Factor CFA)	19.93	8	.98	.96	.02	.07 [.03-.12]	3402.87
	Model 13 (2 Factor ESEM)	0.00	0	1.00	1.00	.00	.00 [.00-.00]	3314.55
	Model 14 (3 Factor CFA)	12.62	6	.99	.97	.02	.06 [.00-.11]	3399.56
	Model 15 (3 Factor ESEM)	0.00	0	1.00	1.00	.00	.00 [.00-.00]	3398.93
DSM V BASED MODELS	Model 16 (Single Factor CFA)	442.61	17	.92	.91	.04	.07 [.07-.08]	10857.47
	Model 17 (4 Factor CFA)	369.84	16	.94	.93	.03	.07 [.06-.80]	10796.70
	Model 18 (4 Factor ESEM)	190.94	11	.97	.96	.02	.05 [.03-.06]	10713.80
	Model 19 (7 Factor CFA)	303.44	14	.95	.94	.03	.06 [.05-.07]	10760.30
	Model 20 (7 Factor ESEM)	89.16	71	.99	.98	.01	.03 [.00-.05]	10702.02

Overall, ICD-11-based models demonstrated better goodness-of-fit indices than DSM-V-based models across both the Self-Report and Caregiver forms. In addition, ESEM models consistently showed superior fit compared to their CFA counterparts, generally yielding excellent fit values (CFI and TLI > .95; RMSEA ≤ .06).

For the CATS Self-Report form, the DSM-V single-factor CFA model (Model 6) demonstrated poor fit (CFI and TLI < .90; RMSEA > .10). In contrast, Models 1, 3, 4, 5, and 10

showed good model fit. Among the ICD-11-based models, the 2-factor ESEM model (Model 3) and the 3-factor ESEM model (Model 5) produced the best fit indices and showed substantial improvement over their corresponding CFA models. Specifically, Model 3 demonstrated improved fit relative to Model 2 (ΔCFI = +.030, ΔTLI = +.050, ΔRMSEA = −.020), while Model 5 improved upon Model 4 (ΔCFI = +.030, ΔTLI = +.070, ΔRMSEA = −.090).

Similarly, among DSM-V-based models, the 7-factor ESEM model (Model 10) and the 4-factor ESEM model (Model 8) demonstrated the strongest fit indices. Both models showed clear improvements relative to their corresponding CFA solutions, with Model 10 outperforming Model 9 (ΔCFI = +.050, ΔTLI = +.050, ΔRMSEA = −.020) and Model 8 outperforming Model 7 (ΔCFI = +.050, ΔTLI = +.040, ΔRMSEA = −.020). These findings suggest that the ESEM representations provide a more adequate representation of the latent structure than the corresponding CFA models.

For the CATS Caregiver form, all tested models demonstrated acceptable fit. However, ICD-11-based ESEM models (Models 13 and 15) showed the best fit among ICD-11 solutions, whereas Models 18 and 20 demonstrated the best fit among DSM-V-based models. Compared to their CFA counterparts, Model 13 showed improved fit relative to Model 12 (ΔCFI = +.020, ΔTLI = +.040, ΔRMSEA = −.070), and Model 15 showed improved fit relative to Model 14 (ΔCFI = +.010, ΔTLI = +.030, ΔRMSEA = −.040). Similarly, within the DSM-V framework, Model 20 demonstrated improved fit compared to Model 19 (ΔCFI = +.040, ΔTLI = +.040, ΔRMSEA = −.030), whereas Model 18 outperformed Model 17 (ΔCFI = +.030, ΔTLI = +.030, ΔRMSEA = −.020).

Taken together, these findings indicate that ESEM models consistently provided better model fit and greater flexibility than traditional CFA models across both informant forms. Therefore, the ESEM-based models with superior fit indices were further evaluated in terms of factor loading adequacy, and these results are presented in Table 4.

Table 4. Factor Loadings, Cronbach Alpha (α) and Correlations (r) of ICD 11 Based ESEM Models

	Self-Report					Caregiver				
Model	Model 3		Model 5			Model 8		Model 10		
Item	F1(λ)	F2(λ)	F1(λ)	F2(λ)	F3(λ)	F1(λ)	F2(λ)	F1(λ)	F2(λ)	F3(λ)
2	.60	.39	.14	.54	.22	.79	.03	.77	-.00	.07
3	1.07	-.52	.64	-.02	.21	.76	.08	.68	.03	.16
6	.66	.27	.46	.43	.04	.77	.02	.66	-.06	.16
7	.54	.47	-.08	.82	.13	.20	.67	.31	.13	.40
17	.51	.14	.10	-.03	.74	.52	.31	-.10	-.27	1.09
18	.46	.23	.33	.39	-.08	.31	.41	.07	.59	.53
α	.74	*.80*	*.70*	*.64*	*.80*	.80	*.74*	*.76*	*.72*	*.74*
F1	-	1.15	-	1.03	1.22	-	.98	-	1.01	.93
F2	.24	-	.57	-	1.12	.63	-	.16	-	1.06
F3	-	-	.50	.53	-	-	-	.72	.11	-

* Loadings ≥.30 are in bolCFAce. ESEM correlations are displayed below the diagonal and CFA correlations are displayed below the diagonal. Non-significant parameters (p ≥ .05) are marked in italics.

In the CATS Self-Report measurement, it was observed that in Model 3, items 17 and 18 formed stronger cross-loadings on the unintended factor, while in Model 8, items 7 and 17 showed stronger cross-loadings on the unintended factor. In Model 5, items 2, 6, and 18, and in Model 10, items 7 and 18, formed stronger cross-loadings on the unintended factor. However, it was observed that the factor loadings in the models were adequate (λ > 0.30). The item factor loadings for the models constructed based on DSM V are shown in Table 5.

Table 5. Factor Loadings of DSM V Based Models, Croanbach Alpha (α) and Correlations

	Model	Model 18				Model 20						
	Item	F1(λ)	F2(λ)	F3(λ)	F4(λ)	F1(λ)	F2(λ)	F3(λ)	F4(λ)	F5(λ)	F6(λ)	F7(λ)
CATS Caregiver	1	.56	.10	.16	.09	.54	-.17	.19	.03	.12	.03	.12
	2	.66	.09	-.01	.15	.79	-.18	.01	.04	-.01	.01	.11
	3	.85	-.10	-.11	.14	.74	-.12	-.11	-.06	.16	.11	-.02
	4	.45	.34	-.14	.28	.62	.33	.03	-.18	.02	.01	.22
	5	.48	.10	.29	.01	.74	.23	-.00	.23	-.08	-.03	-.27
	6	.20	.38	.13	.21	.22	.20	.26	-.03	.02	.12	.21
	7	.22	.25	.42	-.00	.14	.12	.36	.07	.10	.13	-.01
	8	.41	.01	.49	-.15	.28	.01	.24	.10	.18	.13	-.23
	9	.19	.40	.44	-.01	.22	.06	.54	.10	-.02	.03	.13
	10	.02	.26	.73	-.04	-.15	.12	.60	.15	.21	.13	.02
	11	.21	-.02	.28	.39	.11	.10	-.04	.23	.21	.26	.11
	12	.06	-.01	.58	.29	.07	.10	.06	.51	.10	.15	.02
	13	-.10	.06	.68	.32	.02	-.07	.15	.74	-.02	.01	.17
	14	-.04	-.10	.72	.30	.06	.01	-.00	.69	.16	.01	.02
	15	.16	-.12	.38	.39	.05	.10	-.11	.10	.70	.01	.17
	16	.32	-.14	.59	-.07	.08	-.11	.24	.02	.63	.01	-.14
	17	.27	.01	.20	.24	.03	.16	.02	.04	.16	.42	-.01
	18	.46	.02	.11	.32	-.00	-.06	.01	-.03	-.10	1.08	.02
	19	.07	.15	.14	.62	.14	.06	-.04	.27	.11	.15	.41
	20	.11	.23	.41	.23	.21	.12	.21	.28	.04	.04	.14
	α	.87	*.72*	.91	*.85*	.87	*.72*	.83	.88	.74	.74	*.73*
	F1	-	.84	.89	.92	-	.85	.92	.83	.85	.85	.90
	F2	.38	-	.85	.86	.16	-	.89	.78	.77	.79	.87
	F3	.76	.30	-	.97	.06	.10	-	.92	.92	.87	.93

	F4	.55	.28	.56	-	.05	.14	.09	-	.91	.80	.94
	F5	-	-	-	-	.07	.12	.08	.07	-	.82	.87
	F6	-	-	-	-	.05	.12	.07	.06	.10	-	.86
	F7	-	-	-	-	.10	.07	.09	.10	.09	.10	-

	Model	Model 13				Model 15						
CATS Self Report	1	.71	-.04	.12	.05	.69	.04	.12	.07	-.07	.04	.12
	2	.46	.03	.18	.03	.51	.13	.04	.05	.16	-.01	.13
	3	.71	.07	.02	.05	.72	.14	-.17	-.11	.20	.02	-.08
	4	.83	-.15	-.01	.01	.84	.01	-.19	-.02	-.20	-.03	.11
	5	.31	.03	.31	.07	.73	-.21	.47	.06	-.06	.03	-.05
	6	.55	.05	.04	.04	.22	.51	-.04	-.00	.02	.04	.01
	7	.40	-.01	.09	.03	-.02	.77	.20	.12	-.17	.04	-.08
	8	.12	.23	.12	.03	-.00	.27	.27	-.06	.10	.02	.13
	9	.15	.34	.36	.07	.04	.17	.18	.12	.22	.04	.30
	10	.11	.29	.26	.00	.15	.11	.30	.01	.23	-.06	.13
	11	.24	.26	.39	.08	.13	.04	-.12	.21	.31	.07	.30
	12	.24	.26	.33	.10	.05	.18	-.02	.21	.15	.12	.28
	13	.07	.02	.71	.05	.03	.04	-.00	.67	.07	.02	.13
	14	-.02	-.49	1.06	.01	.07	.04	-.04	.86	-.01	.01	-.19
	15	-.00	.30	.52	.09	.01	.00	.04	.29	.39	.07	.15
	16	-.06	.32	.38	.07	.10	-.10	.11	.01	.76	.05	-.12
	17	.16	.13	.32	.17	.10	.06	.10	.16	.08	.28	.11
	18	-.06	-.08	-.08	2.58	-.03	-.02	-.04	-.05	-.03	1.58	-.05
	19	.30	.37	.15	.10	.16	.07	.13	-.06	.01	.11	.58
	20	.20	.18	.37	.07	-.02	.16	.05	.27	-.01	.06	.35
	α	.83	*.64*	*.81*	.81	.83	*.64*	*.68*	*.76*	*.63*	.80	*.66*
	F1	-	.72	.81	.81	-	.72	.81	.76	.65	.71	.77
	F2	.40	-	.66	.62	.56	-	.70	.60	.40	.59	.62
	F3	.60	.43	-	.95	.17	.00	-	.90	.96	.66	.94
	F4	.26	.07	.21	-	.61	.33	.22	-	.81	.71	.83
	F5	-	-	-	-	.49	.29	.15	.46	-	.62	.73
	F6	-	-	-	-	.48	.30	.06	.38	.26	-	.73
	F7	-	-	-	-	.51	.44	.07	.46	.48	.31	-

In the 4-factor models of the CATS Self-Report measurement, it was observed that there were inadequate factor loadings for item 8 and item 10 ($\lambda < .30$). Stronger cross-loadings on unintended factors were observed for item 5, item 6, item 7, item 9, item 15, item 16, item 17, item 19, and item 20. In the Caregiver form, inadequate factor loading was observed for item 17 ($\lambda < .30$), and stronger cross-loadings on unintended factors were observed for item 7, item 11, item 26, item 18, and item 20. In the 7-factor models, for the CATS Self-Report measurement, inadequate factor loadings were observed for item 8, item 12, and item 17 ($\lambda < .30$), and stronger cross-loadings on unintended factors were observed for item 9 and item 11 ($\lambda < .30$). In the Caregiver form, inadequate factor loadings were observed for item 6, item 8, item 11, and item 20 ($\lambda < .30$), while there were no stronger cross-loadings on unintended factors. On analyzing the item factor correlation values, another criterion examined in comparing CFA and ESEM models, it is observed that in the ICD 11-based Self-Report form, in Model 3 (r=.24) compared to Model 2 (r= 1.15); in Model 5 (.50- .57) compared to Model 4 (r=1.03- 1.22), in the Caregiver form, in Model 13 (r= .63) compared to Model 12 (.98); and in

Model 15 (r=.11- .72) compared to Model 14 (r=.93- 1.06), the item factor correlations have significantly decreased. In the DSM V-based Self-Report form, it is observed that in Model 8 (r=.07- .60) compared to Model 7 (r=.62- .95); in Model 10 (r=.00- .61) compared to Model 9 (r=.40- .96); in the Caregiver form, in Model 18 (r=.30- .76) compared to Model 17 (r=.84- .97); and in Model 20 (r=.00- .16) compared to Model 19 (r=.77- .94), the item factor correlations have significantly decreased. Therefore, it is observed that the factor correlations in ESEM models significantly decreased compared to CFA models, and ESEM models provide better discriminative validity. Parallel to this, when AIC values are examined, it is seen that both in self-report and caregiver forms, ESEM models based on 2-factor ICD 11 and 7-factor DSM V models have the lowest values, indicating that they provide the best representation of the data structure.

Construct Validity

Criterion-related validity, the relationships between the CATS-2 Self-report form and the CRIES-13, and between the CATS-2 Caregiver form and the CSDC, were examined. The results obtained from this analysis are presented in Table 6.

Table 6. Correlation of Scales with the 7-Factor Structure of the CATS Measurement

	Self-Report				Caregiver						
	CRIES-13	INT	AVO	ARO	CSDC	RE	AVO	NUDI	INAR	IMFU	ACUT
CATS	.778**	.727**	.481**	.760**	.884**	.788**	.722**	.846**	.800**	.768**	.668**
RE	.746**	.745**	.456**	.695**	.811**	.788**	.690**	.741**	.721**	.666**	.610**
AVO	.559**	.456**	.579**	.395**	.652**	.577**	.614**	.605**	.542**	.540**	.523**
NA	.617**	.587**	.358**	.615**	.795**	.705**	.651**	.771**	.709**	.692**	.597**
AN	.589**	.538**	.350**	.598**	.800**	.659**	.608**	.819**	.724**	.735**	.597**
EB	.459**	.442**	.183**	.527**	.781**	.677**	.562**	.764**	.723**	.747**	.583**
AA	.562**	.521**	.336**	.565**	.711**	.658**	.546**	.656**	.692**	.579**	.555**
DA	.613**	.532**	.324**	.682**	.740**	.615**	.635**	.704**	.701**	.652**	.547**

**RE: Reexperiencing, AVO: Avoidance, NA: Negative Affect, AN: Anhedonia, EB: Externalizing Behavior, AA: Anxious Arousal, DA: Dysphoric Arousal, INT: Intrusion, ARO: Arousal, NUDI: Numbing and Dissociation, INAR: Increased Arousal, IMFU: Impairment in Function,* **p < .01

When Table 6 is examined, it is observed that the CATS Self-Report measurement has a significant positive relationship with CRIES-13 and its sub-dimensions, similar to how the CATS Caregiver measurement has a significant and positive relationship with CSDC and its sub-dimensions. Accordingly, it can be said that the CATS Self-Report measurement assesses a similar structure with CRIES, while the CATS Caregiver measurement assesses a similar structure with CSDC.

Network Analysis

The visual network of CATS Self-report and Caregiver measurements can be seen in Figure 1, while centrality indices are displayed in Figure 2.

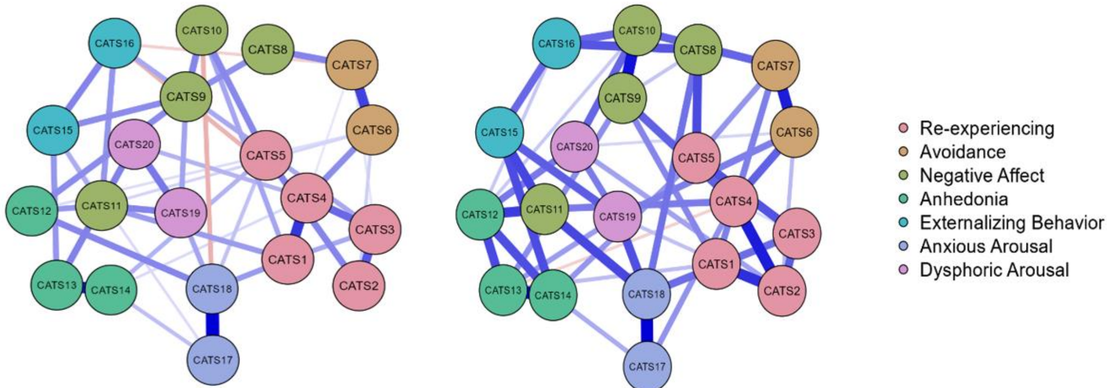

*__Figure 1__. Network representation of CATS items for Children (Left) and Parents (Right). Blue edges indicate positive relationships between nodes, while red color represents negative relationships. Thicker and darker edges represent stronger connections.

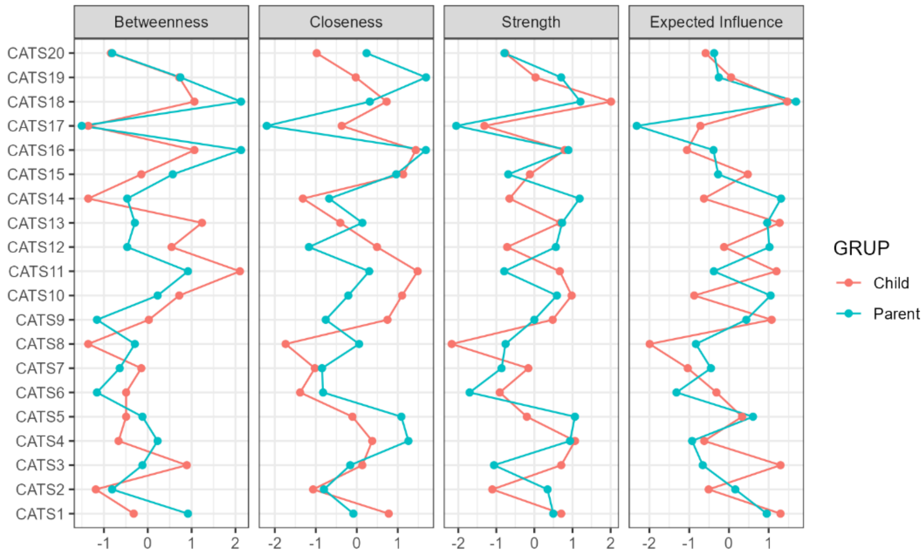

Figure 2. Network Centrality Indices of CATS Items for Children and Parents

When visually examining Figure 1, both networks demonstrated dense interconnections among symptoms and showed similar clustering patterns across subscale domains. However, associations between symptoms appeared stronger in the caregiver network than in the child self-report network. In both networks, Item 11 of the Negative Affect subscale ("Having very negative emotional states such as fear, anger, guilt, or shame") was positioned outside its original symptom cluster and showed stronger associations with Dysphoric Arousal, Anxious Arousal, Anhedonia, and Externalizing Behavior symptoms. In addition, Dysphoric Arousal and Reexperiencing symptoms occupied more central positions within the network structure, whereas Avoidance, Anhedonia, and Externalizing Behavior symptoms were located more peripherally.

Most associations between nodes were positive in both networks. Nevertheless, several negative associations emerged. In the child network, negative edges were observed between CATS5 (“Strong physical reactions when reminded of the event”) and CATS16 (“Doing unsafe things”), CATS18 (“Being jumpy”) and CATS10 (“Blaming yourself or others”), CATS9 (“Negative beliefs about oneself or others”) and CATS16, as well as between CATS8 (“Difficulty remembering parts of the event”) and CATS16. In the caregiver network, a negative association was identified between CATS13 (“Not feeling close to people”) and CATS4 (“Feeling very upset when reminded of the event”).

Centrality analyses presented in Figure 2 indicated that, in the child network, Item 11 (“Feeling negative emotions most of the time”) and Item 13 (“Feeling no closeness to people”) played important roles in connecting symptom clusters. In contrast, in the caregiver network, Item 18 (“Feeling nervous or easily startled”) and Item 16 (“Engaging in harmful or risky behaviors”) demonstrated the highest centrality values. Across both networks, Item 18 consistently showed the highest strength and expected influence values, indicating that it was the most influential symptom within the network structure. Furthermore, Item 18 was among the most central nodes across all centrality indices, including betweenness, strength, and expected influence, in both child and caregiver samples (Table 7).

Table 7. Centrality measures per variable

	CHILDREN				PARENT			
Variable	Betweenness	Closeness	Strength	Expected influence	Betweenness	Closeness	Strength	Expected influence
CATS1	.29	.84	1.03	1.62	-.08	-.47	-.18	.06
CATS2	-1.12	-1.60	-1.17	-.87	-.28	.35	.63	.75
CATS3	.47	-.23	-.02	.65	-.58	.08	-.87	-.81
CATS4	1.36	.67	1.40	.53	3.25	2.38	2.60	1.44
CATS5	-.59	-.96	-.63	-.37	.02	1.01	.34	.02
CATS6	.11	-1.22	-.43	-.05	-.38	-.70	-1.06	-.99
CATS7	-.24	-1.48	-.07	-.81	-.78	-1.34	-.29	-.11
CATS8	-.95	-1.11	-1.70	-1.55	-.68	-.42	-1.00	-.82
CATS9	-.41	.48	.23	.98	-.68	-.49	-.19	.15
CATS10	-.24	1.08	1.35	-1.09	.02	-.76	.24	.43
CATS11	1.00	1.09	.55	1.19	.22	.61	.20	.34
CATS12	.29	.84	-.26	.20	-.48	-.73	.12	.42
CATS13	.29	-.49	.34	.83	-.48	-.81	.25	-.30
CATS14	-1.12	-1.05	-.87	-.46	-.48	-.96	.37	.69
CATS15	-.95	-.42	-.52	-.21	-.18	.41	-.39	-.05
CATS16	-.95	-.03	-.33	-2.13	-.28	-.46	-1.44	-2.39
CATS17	-1.30	.22	-.63	-.17	-.78	-.94	-1.70	-1.65
CATS18	2.60	1.71	2.55	1.40	1.13	.67	1.52	2.02
CATS19	1.00	1.02	-.01	.63	1.84	2.02	.92	.51
CATS20	.47	.66	-.78	-.33	-.28	.55	-.07	.26

When examining the results of the Network Comparison Test (NCT) to determine whether there were differences between the structures of the child and parent networks, it was observed that there was no statistically significant difference between the child and parent network structures ($M = .26$, $p > 0.05$). When evaluating the overall strength of the two

networks, the parent network group had a value of 9.51, while the child network group had a value of 9.71, indicating that both networks had nearly similar strengths. Consequently, it was found that there was no significant differentiation between the two networks (S= .20, $p > 0.05$).

Discussion

Trauma is a widespread experience, and accurately conceptualizing and measuring PTSD symptoms is essential for effective assessment and intervention (Eklund et al., 2018; Dowdy-Hazlett et al., 2021; Çimen & Seçer, 2025). However, the latent structure of PTSD remains debated, particularly in child and adolescent populations (Zhou et al., 2017). Therefore, the present study examined the psychometric properties of the Turkish version of the CATS using both CFA and ESEM approaches across ICD-11- and DSM-V-based models. Overall, the findings indicated that ESEM models consistently demonstrated better fit indices and lower factor correlations than the corresponding CFA models for both the Self-Report and Caregiver forms. These results suggest that allowing limited cross-loadings provides a more realistic representation of PTSD symptom structure in children and adolescents. The observed cross-loadings may reflect the theoretical overlap among PTSD symptom domains such as reexperiencing, anxious arousal, dysphoric arousal, negative affect, and externalizing behaviors. Similar findings supporting the superiority of ESEM over traditional CFA approaches have been reported in previous PTSD research (Marsh et al., 2014).

The results also showed that ICD-11-based models generally demonstrated better fit than DSM-V-based models. However, this finding should be interpreted cautiously. The relatively better fit of ICD-11 models may be related not only to the parsimonious structure of ICD-11 PTSD criteria but also to the characteristics of the present sample and the earthquake-related trauma context. Earthquake exposure is often associated with intense fear, hypervigilance, and reexperiencing symptoms, which may align more closely with the narrower ICD-11 conceptualization of PTSD. Therefore, further research with different trauma types and clinical samples is needed before drawing broader conclusions regarding the superiority of ICD-11 models (Friedman, 2013; Sachser et al., 2017; Garabiles et al., 2023).

Among the ICD-11 models, the 2-factor ESEM model demonstrated the best fit, whereas among the DSM-V models, the 7-factor ESEM model showed the best fit. These findings are generally consistent with previous studies reporting strong performance for both parsimonious ICD-11 structures and the DSM-V 7-factor hybrid model in trauma-exposed youth populations (Forbes et al., 2015; Wang et al., 2015; Cao et al., 2016; Liu et al., 2016; Zhou et al., 2017). Nevertheless, several DSM-V-based models showed inadequate factor

loadings and substantial cross-loadings, suggesting that the multidimensional DSM-V structure may require further refinement in child and adolescent samples (Armour et al., 2016).

The network analysis findings revealed both similarities and differences between child and caregiver symptom networks. In both networks, anxious arousal symptoms—particularly Item 18 (“Being jumpy or easily startled”)—occupied a highly central position. This finding may reflect the ongoing sense of threat and hypervigilance commonly observed following earthquake-related traumatic experiences. Previous studies conducted after natural disasters have similarly identified hyperarousal symptoms as central components of PTSD symptom networks (Ma et al., 2022). This finding could also be explained by the persistent sense of threat that characterizes PTSD symptomatology (Ehlers & Clark, 2000).

Differences between child and caregiver networks were also observed. In the child network, negative affect and anhedonia symptoms appeared more central, whereas externalizing behavior and anxious arousal symptoms were more central in the caregiver network. These differences may reflect developmental and informant-related variations in symptom perception. Children may experience trauma primarily through internal emotional distress, withdrawal, and difficulties experiencing positive emotions, whereas caregivers may more easily recognize observable behavioral symptoms such as irritability, dysregulation, restlessness, and exaggerated startle responses. These findings are consistent with developmental trauma literature suggesting that children often express trauma-related distress through emotional and behavioral dysregulation rather than direct verbal expression of traumatic experiences (Lieberman & Van Horn, 2009; McLaughlin et al., 2013).

In the parent network, the prominence of externalizing behavior symptoms may also reflect the overlap between traumatic stress symptoms and disruptive behavior problems such as aggression, impulsivity, and oppositional behaviors (Menand & Cox, 2022). Similarly, previous studies conducted with earthquake-exposed adolescents have reported that symptoms related to sadness, alienation, self-blame, and fatigue occupy central positions within PTSD symptom networks (Qi et al., 2023). Therefore, the centrality of PTSD symptoms may vary depending on trauma type, developmental stage, and informant perspective (Bridges-Curry et al., 2022; An et al., 2022). Furthermore, studies conducted after the Kahramanmaraş earthquakes revealed high rates of PTSD, depression, and anxiety symptoms among children and adolescents and emphasized the role of post-disaster stressors such as being trapped under debris, limited access to shelter, and difficulties accessing basic needs and health services in increasing PTSD severity (Düken et al., 2025; Yakşi & Eroğlu, 2024).

These contextual factors may help explain why hyperarousal and emotional distress symptoms occupied central positions in the present network structures.

Comparing parental and child symptom networks, it was observed that while there were similarities between the two informants, the parental network showed a greater emphasis on externalizing behavior symptoms. This difference may reflect both developmental and informant-related factors in the assessment of PTSD symptoms in children. Specifically, caregivers are more likely to report observable behaviors such as irritability, behavioral dysregulation, and outward expressions of distress, whereas children may more directly experience internal emotional symptoms that are less visible to external observers. This divergence highlights an important informant discrepancy commonly reported in child psychopathology research, suggesting that different informants capture different but complementary aspects of PTSD symptom expression. Clinically, this finding underscores the importance of multi-informant assessment approaches, as relying solely on either child or parent reports may lead to an incomplete understanding of symptom presentation. From a methodological perspective, these differences also support the value of integrating multiple data sources when examining symptom networks in pediatric trauma populations. While the structure of PTSD symptoms in adults has been extensively studied (McElroy et al., 2019; Karatzias et al., 2020), it is less frequently explored in children (Knefel et al., 2023). This study addresses an important gap in the literature by examining PTSD symptom networks in children aged 7–17 years while also incorporating the parental perspective.

In conclusion, this study provides evidence for the validity and reliability of the Turkish version of the CATS Self-Report and Caregiver forms. The findings support the use of ESEM for modeling PTSD symptoms in children and adolescents and suggest that ICD-11-based models may provide a parsimonious representation of PTSD symptoms in earthquake-exposed youth. Furthermore, the comparison of child and caregiver symptom networks highlights the importance of multi-informant assessment in pediatric trauma research and clinical practice.

Limitations

This study has several important limitations. Firstly, although the research sample consists of children aged 7-17 and their parents from the earthquake-affected region, considering the diverse traumatic events that can lead to PTSD (such as violence, neglect, abuse, etc.), it is crucial to replicate the study in clinical samples exposed to various traumatic events. The time elapsed since the traumatic experience may have influenced the severity and structure of PTSD symptoms, and this variable could not be controlled in the present study. In

addition, although the study focused on earthquake-related trauma, PTSD symptoms and network structures may differ across various types of traumatic experiences such as violence, abuse, neglect, or accidents. Additionally, the study reached 233 adolescents and 258 parents. Increasing the sample size is important for the generalizability of the findings. The analysis of symptom interrelations is limited to cross-sectional data, thus not capturing dynamic relationships among symptoms. Moreover, examining only existing relationships among variables does not reflect causality. Therefore, future research could employ longitudinal data to investigate dynamic relationships among symptoms using graphical models such as vector autoregression (VAR) or directed acyclic graph (DAG) to explore causal relationships among variables.

Ethics Statement: This study was conducted in accordance with the ethical standards outlined in the 1964 Declaration of Helsinki and its subsequent amendments. The study was approved by the Human Research Ethics Committee of Atatürk University (Approval No: 92, 18.03.2024).

Author Contributions: This study was carried out through the joint contributions of both authors. The authors collaborated throughout all stages of the research process.

Conflict of Interest: The authors declare no potential conflicts of interest regarding the research, authorship, and/or publication of this article.

Funding: This research received no financial support from any institution or organization.

Data Availability: In accordance with research ethics principles, the data used in this study may be shared with relevant researchers upon reasonable request solely for scientific research purposes.

Informed Consent: Voluntary participation consent was obtained from all participants involved in the study.

References

Akaike, H. (1974). A new look at the statistical model identification. *IEEE Transactions on Automatic Control, 19*, 716-723. https://doi.org/10.1109/TAC.1974.1100705

Akkuş, P. Z., Serdaroğlu, E., Kömürlüoğlu, A., Asena, M., Bahadur, E. İ., Özdemir, G., . . . Özmert, E. N. (2021). Screening traumatic life events in preschool aged children: Cultural adaptation of Child and Adolescent Trauma Screen (CATS) Caregiver-report 3-6 years version. *The Turkish Journal of Pediatrics, 63*, 95-101. https://doi.org/10.24953/turkjped.2021.01.011

Alamer, A. (2022). Exploratory structural equation modeling (ESEM) and bifactor ESEM for construct validation purposes: Guidelines and applied example. *Research Methods in Applied Linguistics, 1*(1), 100005. https://doi.org/10.1016/j.rmal.2022.100005

Alisic, E., Zalta, A. K., van Wesel, F., Larsen, S. E., Hafstad, G. S., Hassanpour, K., & Smid, G. E. (2014). Rates of post-traumatic stress disorder in trauma-exposed children and adolescents: Meta-analysis. *British Journal of Psychiatry, 204* (5), 335-340. https://doi.org/10.1192/bjp.bp.113.131227

An, Y., Zhao, J., Shi, J., & Hou, W. K. (2022). Network analysis of posttraumatic stress disorder symptoms among adolescent survivors of a major disaster in China. *Psychological Trauma: Theory, Research, Practice, and Policy, 14*(1), 132–140. https://doi.org/10.1037/tra0001053

APA. (1980). *Diagnostic and statistical manual of mental disorders, DSM-III* (3. edition). Washington, DC: American Psychiatric Association.

APA. (1994). *Diagnostic and statistical manual of mental disorders, DSM-IV* (4. edition). Washington, DC: American Psychiatric Association.

APA. (2013). *Diagnostic and Statistical Manual of Mental Disorders*(fifth edition (DSM-V)). Arlington, VA.

Armour, C., Tsai, J., Durham, T. A., Charak, R., Biehn, T. L., Elhai, J. D., & Pietrzak, R. H. (2015). Dimensional structure of DSM-5 posttraumatic stress symptoms: support for a hybrid Anhedonia and Externalizing Behaviors model. *Journal of Psychiatric Research, 61*, 106–113. https://doi.org/10.1016/j.jpsychires.2014.10.012

Armour, C., Contractor, A., Shea, T., Elhai, J. D., & Pietrzak, R. H. (2016). Factor Structure of the PTSD Checklist for DSM-V. *The Journal of Nervous and Mental Disease, 204*(2), 108-115. https://doi.org/10.1097/NMD.0000000000000430

Asparouhov, T., & Muthén, B. (2009). Exploratory structural equation modeling. *Structural Equation Modeling: A Multidisciplinary Journal, 16*, 397–438. https://doi.org/10.1080/10705510903008204

Benfer, N., Bardeen, J. R., Spitzer, E. G., & Rogers, T. A. (2021). A network analysis of two conceptual approaches to the etiology of PTSD. *Journal of Anxiety Disorders, 84*, 102479. https://doi.org/10.1016/j.janxdis.2021.102479Benfer

Birkeland, M. S., Greene, T., & Spiller, T. R. (2020). The network approach to posttraumatic stress disorder: A systematic review. *European Journal of Psychotraumatology, 11*, 1700614. https://doi.org/10.1080/20008198.2019.1700614

Bloch, F., Jackson, M. O., & Tebaldi, P. (2023). Centrality measures in networks. *Social Choice and Welfare, 61*, 413–453. https://doi.org/10.1007/s00355-023-01456-4

Borsboom, D. (2017). A network theory of mental disorders. *World Psychiatry, 16*(1), 5-13. https://doi.org/10.1002/wps.20375

Bridges-Curry, Z., Christian, C., & Levinson, C. A. (2022). Network analysis of PTSD symptoms in a sample of polyvictimized youth. *Journal of Trauma & Dissociation, 23*(4), 401-415. https://doi.org/10.1080/15299732.2021.1989115

Bringmann, L. F., Elmer, T., Epskamp, S., Krause, R. W., Schoch, D., Wichers, M., . . . Snippe, E. (2019). What do centrality measures measure in psychological networks? *Journal of Abnormal Psychology, 128*(8), 892-903. https://doi.org/10.1037/abn0000446

Cao, X., Wang, L., Cao, C., Zhang, J., & Elhai, J. D. (2017). DSM-5 Posttraumatic Stress Disorder Symptom Structure in Disaster-Exposed Adolescents: Stability across Gender and Relation to Behavioral Problems. *Journal of Abnormal Child Psychology, 45*(4), 803–814. https://doi.org/10.1007/s10802-016-0193-1

Chafouleas, S. M., Koriakin, T. A., Roundfield, K. D., & Overstreet, S. (2019). Addressing childhood trauma in school settings: A framework for evidence-based practice. *School Mental Health, 11*(1) , 40-53. https://doi.org/10.1007/s12310-018-9256-5

Cloitre, M., Shevlin , M., Brewin, C. R., Bisson, J. I., Roberts, N. P., Maercker, A., . . . Hyland, P. (2018). The International Trauma Questionnaire: Development of a self-report measure of ICD-11 PTSD and Complex PTSD. *Acta Psychiatrica Scandinavica, 138*(6), 536-546. https://doi.org/10.1111/acps.12956

Cohen, J. A. (2010). Practice parameter for the assessment and treatment of children andadolescents with posttraumatic stress disorder. *Journal of the American Academy*

of Child & Adolescent Psychiatry, 49(4), 414-430. https://doi.org/10.1016/j.jaac.2009.12.020

Cramer, A. O., Waldorp, L. J., van der Maas, H. L., & Borsboom, D. (2010). Comorbidity: a network perspective. *The Behavioral and Brain Sciences, 33*(2-3), 137–193. https://doi.org/10.1017/S0140525X09991567

Çeri, V., Hamidi, F., Çakır, B., Bilaç, Ö., İz, M., İz, F. B. A., & Aydemir, Ö. (2021). Child revised impact of event scale (CRIES): validity and reliability study of Turkish version. *Neuropsychiatric Investigation, 59*(1), 21-26. http://dx.doi.org/10.5455/NYS.20201101115427

Çimen, F., & Seçer, İ. (2025). The psychometric properties of the International Trauma Questionnaire–Child and Adolescent version in Turkish culture. *European Journal of Psychotraumatology, 16*(1), 2590402. https://doi.org/10.1080/20008066.2025.2590402

Çimen, F., Seçer, İ. (2026). Academic adjustment in children and adolescents with adverse childhood experiences: A multi-level meta-analysis. *European Journal of Psychology of Education*, https://doi.org/10.1007/s10212-026-01139-5

Çimen, F., Seçer, İ., & Pakiş, A. K. (2025). Assessment of PTSD and CPTSD Symptoms in Children and Adolescents Exposed to Earthquakes: An Evaluation Using Latent Profile. *Clinical Psychology & Psychotherapy, 32*(6), e70168. https://doi.org/10.1002/cpp.70168

Çimen, F., Seçer, İ., Alberici, A., & Meiser-Stedman, R. (2026). Psychometric evaluation of the Turkish adapted posttraumatic safety-seeking Behaviours scale (CSBS) and network analysis of PTSD symptoms in earthquake-exposed children and adolescents. *Clinical Child Psychology and Psychiatry, 31*(2), 825-843. https://doi.org/10.1177/13591045251396299

Dowdy-Hazlett, T., Killian, M., & Woods, M. (2021). Measurement of traumatic experiences of children within survey and intervention research: A Systematic Review of the Child and Adolescent Trauma Screen. *Children and Youth Services Review, 131*, 106259. https://doi.org/10.1016/j.childyouth.2021.106259

Düken, M.E., Küçükoğlu, S., & Kılıçaslan, F. (2025). Investigation of posttraumatic stress and depression symptoms in children who experienced the Kahramanmaraş earthquake. *Journal of the American Psychiatric Nurses Association, 31*(2) 165–175. https://doi.org/10.1177/10783903241257631

Ehlers, A., & Clark, D. M. (2000). A cognitive model of posttraumatic stress disorder. *Behaviour Research and Therapy, 38*(4), 319–345. https://doi.org/10.1016/s0005-7967(99)00123-0

Eklund, K., Rossen, E., Koriakin, T., Chafouleas, S. M., & Resnick, C. (2018). A systematicreview of trauma screening measures for children and adolescents. *School Psychology Quarterly, 33*, 30-43. https://doi.org/10.1037/spq0000244

Forbes, D., Lockwood, E., Creamer, M., Bryant, R. A., McFarlane, A. C., Silove, D., Nickerson, A., & O'Donnell, M. (2015). Latent structure of the proposed ICD-11 post-traumatic stress disorder symptoms: implications for the diagnostic algorithm. *The British Journal of Psychiatry, 206*(3), 245–251. https://doi.org/10.1192/bjp.bp.114.150078

Friedman, M. J. (2013). Finalizing PTSD in DSM-V: Getting here from there and where to go next. *Journal of Trauma Stress, 26*(5), 548-556. https://doi.org/10.1002/jts.21840

Garabiles, M. R., Mordeno, I. G., & Nalipay, J. N. (2023). A comparison of DSM-V and ICD-11 models of PTSD: Measurement invariance and psychometric validation in Filipino trauma samples. *Journal of Psychiatric Research, 163*, 24-31. https://doi.org/10.1016/j.jpsychires.2023.05.006

Hansen, M., Hyland, P., Armour, C., Shevlin, M., & Elklit, A. (2015). Less is more? Assessing the validity of the ICD-11 model of PTSD across multiple trauma samples. *European Journal of Psychotraumatology, 6*, 28766. https://doi.org/10.3402/ejpt.v6.28766

JASP Team (2019). *JASP* (Version 0.11.1) [Computer software]

Karatzias, T., Shevlin, M., Hyland, P., Ben-Ezra, M., Cloitre, C., Owkzarek, M., & McElroy, E. (2020). The network structure of ICD-11 complex post-traumatic stress disorder across different traumatic life events. *World Psychiatry Official Journal of the World Psychiatric Association (WPA), 19* (3), 400-401. https://doi.org/10.1002/wps.20795

Kessler, R. C., Aguilar-Gaxiola, S., Alonso, J., Benjet, C., Bromet, E. J., Cardoso, G., . . . Karam, E. G. (2017). Trauma and PTSD in the WHO World Mental Health Surveys. *European Journal of Psycotraumatology, 8*, 1353383. https://doi.org/10.1080/20008198.2017.1353383

Kline, R. B. (2016). *Principles and practice of structural equation modeling* (Fourth Edition). New York: The Guilford Press.

Knefel, M., Karatzias, T., Spinazzola, J., Shevlin, M., & Ford, J. D. (2023). The relationship of posttraumatic stress disorder and developmental trauma disorder with childhood

psychopathology: A network analysis. *Journal of Anxiety Disorders, 99*, 102766. https://doi.org/10.1016/j.janxdis.2023.102766

Lehmann, S., Breivik, K., Monette, S., & Minnis, H. (2020). Potentially traumatic events in foster youth, and association with DSM-V trauma- and stressor related symptoms. *Child Abuse & Neglect, 101*, 104374. https://doi.org/10.1016/j.chiabu.2020.104374

Li, J., Jin, Y., Xu, Y., Wilson, A., Chen, C., & Wang, Y. (2024). Hazardous drinking in young adults with co-occurring PTSD and psychosis symptoms: A network analysis. *Journal of Affective Disorders, 351*, 588-597. https://doi.org/10.1016/j.jad.2024.01.261

Lieberman, A. F., & Van Horn, P. (2009). Giving voice to the unsayable: Repairing the effects of trauma in infancy and early childhood. *Child and Adolescent Psychiatric Clinics of North America, 18*, 707–720. https://doi.org/10.1016/j.chc.2009.02.007

Liu, L., Wang, L., Cao, C., Qing, Y., & Armour, C. (2016). Testing the dimensional structure of DSM-5 posttraumatic stress disorder symptoms in a nonclinical trauma-exposed adolescent sample. *Journal of Child Psychology and Psychiatry, and Allied Disciplines, 57*(2), 204–212. https://doi.org/10.1111/jcpp.12462

Ma, Z., Zhu, Y., Tao, Y., Yang, Z., Huang, S., Liu, W., . . . Fan, F. (2022). Using network analysis to explore the key bridge symptoms between posttraumatic stress symptoms and posttraumatic growth among survivors 10 years after the Wenchuan earthquake in China. *Journal of Psychiatric Research, 150*, 173-179. https://doi.org/10.1016/j.jpsychires.2022.03.011

Maercker, A., Brewin, C. R., Bryant, R. A., Cloitre, M., van Ommeren, M., Jones, L. M., Humayan, A., Kagee, A., Llosa, A. E., Rousseau, C., Somasundaram, D. J., Souza, R., Suzuki, Y., Weissbecker, I., Wessely, S. C., First, M. B., & Reed, G. M. (2013). Diagnosis and classification of disorders specifically associated with stress: proposals for ICD-11. *World Psychiatry, 12*(3), 198–206. https://doi.org/10.1002/wps.20057

Marsh, H., Morin, A., Parker, P., & Kaur, G. (2014). Exploratory structural equation modeling: An integration of the best features of exploratory and confirmatory factor analysis. *Annual Review of Clinical Psychology, 10*, 85-110. https://doi.org/10.1146/annurev-clinpsy-032813-153700

McElroy, E., Shevlin, M., Murphy, S., Roberts, B., Makhashvili, N., Javakhishvili, J., Bisson, J., Ben-Ezra, M., & Hyland, P. (2019). ICD-11 PTSD and complex PTSD: structural

validation using network analysis. *World Psychiatry, 18*(2), 236–237. https://doi.org/10.1002/wps.20638

McLaughlin, K. A., Koenen, K. C., Hill, E. D., Petukhova, M., Sampson, N. A., Zaslavsky, A. M., & Kessler, R. C. (2013). Trauma exposure and posttraumatic stress disorder in a national sample of adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry, 52*(8), 815–830.e14. https://doi.org/10.1016/j.jaac.2013.05.011

Menand, E., & Cox, L. J. (2022). The overlap between Trauma & Disruptive Behavior Disorders. *Not Just Bad Kids*, 251–289. https://doi.org/10.1016/b978-0-12-818954-2.00033-x

Miller, M. W., & Sadeh, N. (2014). Traumatic stress, oxidative stress and post-traumatic stress disorder: neurodegeneration and the accelerated-aging hypothesis. *Molecular Psychiatry, 19*(11), 1156-1162. https://doi.org/10.1038/mp.2014.111

Morin, A. J., Meyer, J. P., Creusier, J., & Biétry, F. (2015). Multiple-group analysis of similarity in latent profile solutions. *Organizational Research Methods, 19*(2), 231-254. https://doi.org/10.1177/1094428115621148

Nilsson, D., Dävelid , I., Ledin, S., & Svedin, C. G. (2021). Psychometric properties of the Child and Adolescent Trauma Screen (CATS) in a sample of Swedish children. *Nordic Journal of Psychiatry, 75*(4), 247-256. https://doi.org/10.1080/08039488.2020.1840628

Nilsson, D., Dävelid, I., Ledin, S., & Svedin, C. G. (2020). Psychometric properties of the Child and Adolescent Trauma Screen (CATS) in a sample of Swedish children. *Nordic Journal of Psychiatry, 75*(4), 247-256. https://doi.org/10.1080/08039488.2020.1840628

Pai, A., Suris, A. M., & North, C. S. (2017). Posttraumatic Stress Disorder in the DSM-V: Controversy, change, and conceptual considerations. *Behavioral Sciences, 7*(1), 1-7. https://doi.org/10.3390/bs7010007

Pietrzak , R. H., Tsai , J., Armour , C., Mota , N., Harpaz-Rotem, I., & Southwick , S. M. (2015). Functional significance of a novel 7-factor model of DSM-V PTSD symptoms: Results from the National Health and Resilience in Veterans study. *Journal of Affective Disorders, 174*, 522–526. https://doi.org/10.1016/j.jad.2014.12.007

Qi, J., Ye, Y., Sun, R., Zhen, R., & Zhou, X. (2023). Comorbidity of posttraumatic stress disorder and depression among adolescents following an earthquake: A longitudinal study based on network analysis. *Journal of Affective Disorders, 324*, 354-363. https://doi.org/10.1016/j.jad.2022.12.119

Raftery, A. E. (1995). Bayesian model selection in social research. *Sociological Methodology, 25*, 111-163. https://doi.org/10.2307/271063

Robinaugh , D. J., Hoekstra , R. H., Toner , E. R., & Borsboom, D. (2020). The network approach to psychopathology: a review of the literature 2008–2018 and an agenda for future research. *Psychological Medicine, 50*(3), 353-366. https://doi.org/10.1017/S0033291719003404

Sachser, C., Berliner , L., Holt, T., Jensen, T., Jungbluth, N., Risch, E., . . . Goldbeck, L. (2017). Comparing the dimensional structure and diagnostic algorithms between DSM-V and ICD-11 PTSD in children and adolescents. *European Child & Adolescent Psychiatry, 27*, 181-190. https://doi.org/10.1007/s00787-017-1032-9

Sadeh, N., Miller, M. W., Wolf, E. J., & Harkness, K. L. (2015). Negative emotionality and disconstraint influence PTSD symptom course via exposure to new major adverse life events. *Journal of Anxiety Disorders, 31*, 20–27. https://doi.org/10.1016/j.janxdis.2015.01.003

Saini, S. M., Hoffmann, C. R., Pantelis, C., Everall, I. P., & Bousman, C. A. (2019). Systematic review and critical appraisal of child abuse measurement instruments. *Psychiatry Research, 272*, 106-113. https://doi.org/10.1016/j.psychres.2018.12.068

Saxe, G., Chawla, N., Stoddard, F., Kassam-Adams, N., Courtney, D., Cunningham, K., . . . King, L. (2003). Child stress disorders checklist: A measure of ASD and PTSD in children. *Journal of the American Academy of Child & Adolescent Psychiatry, 42*(8), 972-978. https://doi.org/10.1097/01.CHI.0000046887.27264.F3

Seçer, İ., Briegel, W., & Çimen, F. (2024*). Turkish Validity and Reliability Study of Child stress disorders checklist* [Oral Presentation]. Burdur: 2. International 21. Century Educational Research Congress.

Soberón, C., Crespo, M., Del Mar Gómez-Gutiérrez, M., Fernández-Lansac, V., & Armour, C. (2016). Dimensional structure of DSM-5 posttraumatic stress symptoms in Spanish trauma victims. *European Journal of Psychotraumatology, 7*, 32078. https://doi.org/10.3402/ejpt.v7.32078

van den Hout, M. A., & Engelhard, I. M. (2004). Pretrauma neuroticism, negative appraisals of intrusions, and severity of PTSD symptoms. *Journal of Psychopathology and Behavioral Assessment, 26*(3), 181-183. https://psycnet.apa.org/doi/10.1023/B:JOBA.0000022110.17639.60

van Zyl, L. E., & ten Klooster, P. M. (2022). Exploratory structural equation modeling: Practical guidelines and tutorial with a convenient online tool for Mplus. *Frontiers in Psychiatry, 12*, 795672. https://doi.org/10.3389/fpsyt.2021.795672

Wang, L., Zhang, L., Armour, C., Cao, C., Qing, Y., Zhang, J., Liu, P., Zhang, B., Wu, Q., Zhao, Z., & Fan, G. (2015). Assessing the underlying dimensionality of DSM-5 PTSD symptoms in Chinese adolescents surviving the 2008 Wenchuan earthquake. *Journal of Anxiety Disorders, 31*, 90–97. https://doi.org/10.1016/j.janxdis.2015.02.006

Weathers, F.W., Litz, B.T., Keane, T.M., Palmieri, P.A., Marx, B.P., & Schnurr, P.P. (2013). *The PTSD Checklist for DSM-V (PCL-5)*. http://www.ptsd.va.gov/

Yakşi, N., & Eroğlu, M. (2024). Determinants of Posttraumatic Stress Disorder (PTSD) among children and adolescents in the subacute stage of Kahramanmaras earthquake, Turkey. *Archives of Public Health, 82*(199), 8-12. https://doi.org/10.1186/s13690-024-01434-x

Zhang L., Pan R., Cai Y., Pan J. (2021) The prevalence of post-traumatic stress disorder in the general population during the COVID-19 pandemic: A systematic review and single-arm meta-analysis. *Psychiatry Investigation, 18*(5), 426–433. https://doi.org/10.30773/pi.2020.0458

Zhou, X., Wu, X., & Zhen, R. (2017). Assessing the latent structure of DSM-V PTSD among Chinese adolescents after the Ya'an earthquake. *Psychiatry Research, 254*, 33-39. https://doi.org/10.1016/j.psychres.2017.04.029