



Factor Structure of the Trauma Symptom Checklist for Children (TSCC) in a Diverse Sample of Trauma-Exposed Youth

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INTRODUCTION

- Accurate measurement of trauma-related symptoms is critical for understanding and treating youth's mental health problems.
- The Trauma Symptom Checklist for Children (TSCC)¹ covers a broad, transdiagnostic spectrum of problems associated with single-event and chronic trauma exposure.
- At present, little empirical work has been done to investigate the factor structure of the TSCC, particularly in ethnically and socioeconomically diverse samples.
 - Two studies offer some support for the original 6-factor structure, but identify several problematic items from the Anxiety and Sexual Concerns scales.^{2,3}

AIMS: (1) Test the fit of the six-factor structure of the TSCC, as originally conceptualized by the test developer in a diverse sample of at-risk adolescents, **(2)** Examine reliability (i.e., internal consistency), and convergent and discriminant validity of the subscales with other measures.

Hypothesis: We expected that the six-factor solution will fit the data adequately as it has in previous samples, and that the scales would demonstrate adequate reliability and validity.

METHODS

Participants included ($N = 763$) 16-year-olds and their caregivers who participated in the Longitudinal Studies of Child Abuse and Neglect (LONGSCAN), a consortium of prospective studies focused on the development outcomes of children who were identified as being at risk for maltreatment during early childhood, and were victimized by interpersonal violence on at least one occasion between birth and age 16.

Measures:

- TSCC¹** is a 54-item, Likert-type youth self-report instrument measuring posttraumatic symptomatology in the following domains: Anxiety (ANX), Depression (DEP), Posttraumatic Stress (PTS), Sexual Concerns (SC), Dissociation (DIS), and Anger (ANG).
- Trauma exposure** was assessed biannually using a combination of self- and parent-report interviews and official CPS records. Participants were included if they were exposed to physical or sexual abuse, or if they had witnessed family or community violence. These dichotomous indicators were summed to produce a cumulative poly-victimization score.
- Child Behavior Checklist (CBCL)⁴** is Likert-type, parent-report measure of youth internalizing and externalizing behavior problems during the previous six months.

Data Analysis:

- Factor structure of the TSCC was assessed using Confirmatory Factor Analysis (CFA). When model fit was inadequate, model modification indices were examined to inform adjustments to subsequent models. Cronbach's α was computed and evidence of convergent and discriminant validity were examined for each clinical scale.

FIGURES AND TABLES

Figure 1. Standardized Factor Loadings and Cronbach's α s of the five-factor TSCC model (Model 3)

Item	DEP ($\alpha = .86$)	ANG ($\alpha = .89$)	DIS ($\alpha = .84$)	SC ($\alpha = .76$)	ANX/PTS ($\alpha = .91$)
7. Feeling lonely	.866***				
9. Feeling sad or unhappy	.872***				
14. Crying	.683***				
20. Wanting to hurt myself	.933***				
26. Washing myself because I feel dirty inside	.489***				
27. Feeling stupid or bad	.797***				
28. Feeling like I did something wrong	.831***				
42. Feeling like nobody likes me	.784***				
52. Wanting to kill myself	.871***				
6. Arguing too much		.649***			
13. Wanting to yell and break things		.856***			
16. Getting mad and can't calm down		.787***			
19. Wanting to yell at people		.844***			
21. Wanting to hurt other people		.776***			
36. Getting into fights		.440***			
37. Feeling mean		.791***			
46. Feeling like I hate people		.892***			
49. Feeling mad		.833***			
5. Pretending I am someone else			.605***		
11. Going away in my mind, trying not to think			.558***		
18. Feeling dizzy			.633***		
29. Feeling like things aren't real			.812***		
30. Forgetting things, can't remember things			.700***		
31. Feeling like I'm not in my body			.819***		
38. Pretending I'm somewhere else			.748***		
45. My mind going empty or blank			.747***		
48. Trying not to have any feelings			.773***		
53. Daydreaming			.550***		
4. Wanting to say dirty words				.741***	
8. Touching my private parts too much				.709***	
17. Thinking about having sex				.591***	
22. Thinking about touching other people's private parts				.613***	
23. Thinking about sex when I don't want to				.740***	
34. Not trusting people because they might want sex				.734***	
40. Getting scared or upset when I think about sex				.680***	
44. Having sex feelings in my body				.726***	
47. Can't stop thinking about sex				.696***	
54. Getting upset when people talk about sex				.706***	
2. Feeling afraid something bad might happen					.735***
15. Getting scared all of a sudden and don't know why					.814***
24. Feeling scared of men					.647***
25. Feeling scared of women					.618***
32. Feeling nervous or jumpy inside					.794***
33. Feeling afraid					.847***
39. Being afraid of the dark					.573***
41. Worrying about things					.715***
50. Feeling afraid somebody will kill me					.757***
1. Bad dreams or nightmares					.590***
3. Scary ideas or pictures just pop into my head					.733***
10. Remembering things that happened that I didn't like					.767***
11. Going away in my mind, trying not to think					.239**
12. Remembering scary things					.827***
35. Can't stop thinking about something bad that happened to me					.831***
43. Remembering things I don't want to remember					.855***
51. Wishing bad things had never happened					.728***

* Indicates significance at $p < .05$
 ** Indicates significance at $p < .01$
 *** Indicates significance at $p < .001$

Figure 2. Comparison of Overall Model Fit Indices of Tested Factor Solutions

	χ^2 Value	CFI	TLI	RMSEA	χ^2 Difference Value
Six-Factor Solution (Model 1) ^a	3030.11*	.950	.947	.041	
Six-Factor Solution (Model 2) ^b	3027.16*	.950	.947	.041	0.81
Five-Factor Solution (Model 3) ^c	3100.54*	.948	.945	.041	73.28*

^a Original six-factor model proposed by test developer
^b Original six-factor model with items 24 and 25 excluded from the PTS factor
^c Five-factor model combining ANX and PTS into one factor

Figure 3. Correlations Between TSCC scales, CBCL Problem Scales, and Indicators of Victimization

	DEP	ANG	DIS	SC	ANX/PTS
Poly-victimization	.28***	.25***	.23***	.23***	.23***
Physical Abuse	.26***	.24***	.22***	.23***	.19***
Sexual Abuse	.30***	.22***	.21***	.17**	.23***
Family Violence	.15**	.16**	.14**	.16**	.15**
Non-family Violence	.11	.16*	.14*	.19*	.11
Total Problem (CBCL)	.31***	.27***	.25***	.15***	.25***
Internalizing Problems	.31***	.23***	.26***	.13**	.25***
Externalizing Problems	.26***	.27***	.20***	.16***	.20***

Figure 4. Sociodemographic Variables

Gender (Female)	52.6%
Race/Ethnicity	
African American	53.8%
White	24.2%
Latinx or Hispanic	7.2%
Asian	0.6%
Other	13.9%
Families Below Federal Poverty Limit	78.8%
Caregivers with Less Than High School Diploma (GED)	22.3%

RESULTS

- The original six-factor model fit the data adequately (**Figure 2**), although factor loadings for PTS items (i.e., 24 and 25) were low.
- An adjusted six-factor model excluding items 24 and 25 from the PTS factor was estimated.
 - Model fit improved marginally, but ANX and PTS remained highly correlated ($r = .90$).
- An adjusted five-factor model (Model 3; see **Figure 1**) combining ANX and PTS factors provided worse fit than Model 1 ($\chi^2 = 73.28, p < .05$), but a more parsimonious solution.

- Model 3 demonstrated good-excellent internal consistency (**Figure 1**); Cronbach's α coefficients for individual scales ranged from .76 (SC) to .91 (ANX/PTS).
- All TSCC scale scores were positively associated with participants' poly-victimization scores ($rs > .22, ps < .001$), as well as with most forms of violence individually (**Figure 3**).
- TSCC scales correlated with CBCL Total Problem, Internalizing, and Externalizing Problems scale scores, with stronger relationships observed for scales that theoretically align (e.g., DEP with CBCL Internalizing: $r = .31$; ANG with CBCL Externalizing: $r = .27$)

Discussion

- Consistent with our hypothesis, CFA confirmed that the six-factor structure of the TSCC, as originally conceptualized by the test developer,¹ fit the data adequately.
- TSCC scales were highly correlated, particularly ANX and PTS, raising questions about the utility of delineating separate factors for "anxiety" and posttraumatic stress."
 - A more parsimonious adjusted model (Model 3) consisting of five factors (ANG, DEP, DIS, SC, and ANX/PTS) yielded model fit indices that were similar to the original model.
- Model 3 demonstrated evidence for reliability, discriminant, and convergent validity.
- Overall, this study offers some support for the interpretability of the TSCC clinical scales in an racially/sociodemographically diverse sample of trauma-exposed adolescents, with problems arising with ANX and PTS items (i.e., high inter-factor correlations).

Future Directions

- Future work should investigate the structural invariance of the TSCC across racial/ethnic groups, particularly Black and Latinx youth, and by gender.
- Studies should continue to evaluate the interpretability of items 24 and 25 ("Feeling scared of men" and "women," respectively), as representative of posttraumatic stress.

References

- Briere, J. (1996). *Trauma Symptom Checklist for Children (TSCC) professional manual*. Odessa, FL: Psychological Assessment Resources.
- Butcher, F., Kretschmar, J. M., Singer, M. I., & Flannery, D. J. (2015). Confirmatory Factor Analysis of the Trauma Symptom Checklist for Children in an At-Risk Sample of Youth. *Journal of the Society for Social Work and Research, 6*(2), 251–268. <https://doi.org/10.1086/681545>
- Nilsson, D., Wadsby, M., & Svedin, C. G. (2008). The psychometric properties of the Trauma Symptom Checklist For Children (TSCC) in a sample of Swedish children. *Child Abuse & Neglect, 32*(6), 627–636. <https://doi.org/10.1016/j.chiabu.2007.09.009>
- Achenbach, T. M. (1991). *Manual for the Child Behavior Checklist/4-18 and 1991 profile*. Burlington, VT: University of Vermont, Department of Psychiatry