Multi-informant assessment of maltreated children: Convergent and discriminant validity of the TSCC and TSCYC

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\textbf{Abstract}

\textbf{Objective:} This study examined the convergent and discriminant validity of two trauma symptom measures, the Trauma Symptom Checklist for Children (TSCC) [Briere, J. (1996). \textit{Trauma Symptom Checklist for Children (TSCC)}. Odessa, FL: Psychological Assessment Resources] and the Trauma Symptom Checklist for Young Children (TSCYC) [Briere, J. (2005). \textit{Trauma Symptom Checklist for Young Children (TSCYC)}. Odessa, FL: Psychological Assessment Resources].

\textbf{Methods:} Children's scores on the TSCC and their caretakers' ratings on the TSCYC were analyzed in a study of 310 children presenting to one of two child abuse treatment centers.

\textbf{Results:} TSCC and TSCYC scales generally converged in their assessment of symptomatology in maltreated children. Equivalent scales measuring anxiety, depression, anger, dissociation, and sexual concerns were generally most correlated with one another. Similarly, the Posttraumatic Stress-Intrusion (PTS-I) scale of the TSCYC correlated highest with the Posttraumatic Stress (PTS) and Anxiety (ANX) scales of the TSCC, the TSCYC Posttraumatic Stress-Arousal (PTS-AR) scale was correlated with the TSCC ANX scale, and the TSCC PTS scale was most correlated with the TSCYC ANX, PTS-I, and Sexual Concerns (SC) scales. The TSCYC Posttraumatic Stress-Avoidance scale was unrelated to any TSCC scale. Discriminant function analysis revealed that the TSCC PTS scale was the best single predictor of sexual abuse-related PTSD status as identified by the TSCYC.

\textbf{Conclusions:} The TSCC and TSCYC display moderate convergent and discriminant validity with respect to one another, despite different information sources. Nevertheless, the relatively small association between relevant TSCC and TSCYC scales indicates that different symptom informants may have different perspectives on the child's symptomatology; an outcome that may be beneficial when both measures are administered simultaneously.

\textbf{Practice implications:} These results reinforce the notion that both child- and parent/caretaker report measures should be used in the evaluation of traumatized children, so that multiple sources of information can be considered simultaneously. In the current context, administration of the TSCC to the child and the TSCYC to the caretaker, when appropriate (i.e., in children 8–12 years of age) may yield more clinical information on the child's symptomatology than either measure would alone—perhaps especially in cases when one of the two respondents under- or over-reports the child's distress.

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Introduction

Childhood traumatic events, such as child abuse, peer assaults, natural disasters, and medically related trauma, are associated with a variety of negative mental health outcomes. These include anxiety, depression, posttraumatic stress, dissociation, oppositional behavior, suicidal and self-injurious behavior, anger and aggression, and sexual symptoms and age-inappropriate sexual behavior (e.g., Fergusson, Horwood, & Lynskey, 1996; Flannery, Singer, & Wester, 2001; Ford, 2002; Friedrich et al., 2001; Guterman, Cameron, & Hahm, 2003; Johnson et al., 2002; Lanktree, Briere, & Zaidi, 1991; Maida, Gordon, & Strauss, 1993; Saltzman, Pynoos, Layne, Steinberg, & Aisenberg, 2001).

As awareness of the potential impacts of traumatic events has grown, both generic and trauma-specific psychological tests have been employed by clinicians and researchers to evaluate possible trauma impacts in children. Generic instruments (e.g., the Child Behavior Checklist [CBCL; Achenbach, 1991]) assist in the evaluation of a range of relatively non-trauma-specific symptoms (e.g., depression and anxiety) that may arise from traumatic events. In contrast, trauma-specific child symptom measures (e.g., the Children’s Impact of Traumatic Events Scale-Revised [CITES-R; Wolfe, Gentile, Michienzi, Sas, & Wolfe, 1991] and Trauma Symptom Checklist for Children [TSCC; Briere, 1996]) assess more directly related outcomes such as posttraumatic stress, dissociation, and reactive sexual behavior.

Despite their growing importance in the field, many trauma-specific instruments for children have not been normed or standardized, and, of those that have been standardized, several have yet to develop a significant record of validity studies. Trauma-specific tests also vary according to which informant is used to assess symptomatology. For example, some trauma measures are completed by the child, whereas others are based on parent/caretaker or teacher report of the child’s symptomatology. This informant variability adds considerable complexity to the assessment process, since the potential advantages, disadvantages, and, ultimately, agreement between child- versus caretaker-report of child trauma symptoms have not been sufficiently evaluated at an empirical level.

In response to the relative paucity of studies on the relationship between child- and parent-report trauma measures, the present study examined two trauma-specific psychological tests—one a child self-report measure (the Trauma Symptom Checklist for Children; TSCC), and one a measure completed by the parent/caretaker (the Trauma Symptom Checklist for Young Children; TSCYC; Briere, 2005). It was hypothesized that, despite different informant sources, the TSCC and TSCYC would have convergent and discriminant validity at the scale level, that is, that similar scales would correlate highest between the measures, whereas dissimilar scales would be less related. It was also predicted, however, that different information sources would result in only small to moderate correlations between similar TSCC and TSCYC scales.

Methods

Procedure

Following initial screening, children between the ages of 8 and 12 years who were clients at one of two child abuse treatment centers were assessed for maltreatment exposure and psychological symptoms as part of their normal intake evaluation. Child clients completed the TSCC and primary caretakers completed the TSCYC at the first or second intake appointment. Although this procedure was standard clinical practice for both centers, approval from their respective institutional review boards was also obtained for chart review. In addition, informed consent was obtained from the caretaker and, when possible, assent was received from the child.

Participants

The initial sample consisted of 335 children, of whom 310 had relatively complete data on both TSCC and TSCYC scales. The mean age of the latter subsample was 9.7 years (SD = 1.5), and the majority were girls (N = 208, 67.1%). Of those for whom race/ethnicity data were available, 92 (41.6%) were Hispanic, 61 (27.6%) were Non-Hispanic Caucasian, 36 (16.2%) were Black/African American, 25 (11.3%) were multiracial, 4 (1.8%) were Asian, 2 (.9%) were American Indian, and 1 (.5%) was “other.” Within this sample, 153 (49.4%) of children or their caretakers reported that the child had been sexual abused, 64 (20.6%) reported physical abuse, and 130 (41.9%) reported that the child had witnessed domestic violence between caretakers.

Measures

Two standardized trauma impact measures, one a child self-report and one a caretaker-report, were used in this study.

TSCC

The TSCC is a 54-item self-report test of posttraumatic symptomatology in children and adolescents, separately normed for boys and girls ages 8–12 and 13–16, with normative adjustments for 17 year olds. This measure consists of two validity scales, Underresponse (UND) and Hyperresponse (HYP), as well as six clinical scales: Anxiety (ANX), Depression (DEP), Posttraumatic Stress (PTS), Sexual Concerns (SC), Dissociation (DIS), and Anger (ANG). Each symptom-item is rated according to its frequency, using a four-point scale ranging from 0 (“never”) to 3 (“almost all of the time”). The TSCC has been used in a variety of studies
of traumatized children and adolescents (e.g., Lanktree & Briere, 1995; Sadowski & Friedrich, 2000; Singer, Anglin, Song, & Lunghofer, 1995; Wolfe, Wekerle, Scott, Straatman, & Grasley, 2004), where it has been shown to be reliable and valid.

TSCYC

The TSCYC is a 90-item caretaker-report instrument, developed for the assessment of trauma-related symptoms in children ages 3–12. Items are rated on a 1 (“not at all”) to 4 (“very often”) scale. The scales of the TSCYC include two caretaker report validity scales, Response Level (RL) and Atypical Response (ATR), as well as a norm-referenced item evaluating how many hours a week the caretaker spends with the child. This measure contains nine clinical scales: Posttraumatic Stress-Intrusion (PTS-I), Posttraumatic Stress-Avoidance (PTS-AV), Posttraumatic Stress-Arousal (PTS-AR), Posttraumatic Stress-Total (PTS-TOT), Sexual Concerns (SC), Anxiety (ANX), Depression (DEP), Dissociation (DIS), and Anger/Aggression (ANG). The TSCYC generates a probable diagnosis of PTSD, with acceptable sensitivity and specificity (Briere, 2005). Normative data are available for caretaker ratings of boys versus girls in the following age ranges: 3–4, 5–9, and 10–12. In a multi-site sample of 219 traumatized children (Briere et al., 2001), TSCYC scales were reliable and predictive of exposure to childhood sexual abuse, physical abuse, and witnessing domestic violence. Similar positive findings have been reported in other studies (e.g., Becker-Blease, Freyd, & Pears, 2004; Briere, 2005; Finkelhor, Hamby, Ormrod, & Turner, 2005; Gilbert, 2004).

Statistical analysis

Two statistical analyses were used to evaluate the convergent and discriminant validity of the TSCC and the TSCYC. First, simple correlations were calculated between the scales of the TSCC versus TSCYC, to determine whether similar scales (e.g., TSCC Anxiety and TSCYC Anxiety) were more highly correlated than dissimilar scales (e.g., TSCC Anxiety and TSCYC Anger), across informants. Second, a step-wise discriminant function analysis was performed, using TSCC scales to predict PTSD status on the TSCYC.

The discriminant analysis was limited to children with identified sexual abuse histories, since only these participants were known to meet criterion A1 for PTSD. PTSD criterion A1 requires that either (a) the individual has experienced, witnessed, or been confronted with an actual or threatened serious injury, or a threat to the physical integrity of self or others or (b) he or she has had one or more developmentally inappropriate sexual experiences in childhood (e.g., sexual abuse) (American Psychiatric Association, 2000). In the present study, it was not ascertained whether all instances of physical abuse or witnessing domestic violence necessarily involved a threat or experience of serious injury.

Given the number of correlation coefficients, the minimal alpha required for statistical significance within the correlation matrix was set at $p < .005$. Similarly, $p < .005$ was the minimum alpha for significance of the discriminant function results.

Results

As presented in Table 1, correlational analysis indicated significant convergence between TSCC and TSCYC scales for ANX, DEP, ANG, and SC, with equivalent scales between the two measures having the highest correlation coefficients. The TSCC DIS scale was most correlated with TSCYC DIS, whereas the TSCYC DIS was second-most correlated with TSCC DIS. Somewhat more complex relationships were found regarding the PTS scale of the TSCYC and the three PTSD symptom cluster scales of the TSCYC. The TSCC PTS scale was most correlated with the ANX scale of the TSCYC, followed by equivalent correlations with the PTS-1 and SC. The TSCYC PTS-1 correlated most with the PTS and ANX scales of the TSCYC, and the PTS-AR was correlated with the TSCC ANX scale. The TSCYC PTS-AV scale was unrelated to any TSCC scale.

Step-wise discriminant function analysis in the sexual abuse subsample indicated that, when all variables were allowed to compete for entry, PTS entered at step one ($\chi^2[1] = 9.40, p = .002$), but no other variables were significant predictors of TSCYC PTSD status at step 2. Follow-up ANOVAs indicated that PTS was the best univariate predictor of TSCYC PTSD, followed by ANX (see Table 2). A Receiver-Operator Curve (ROC) analysis of the PTS-PTSD relationship was significant (area = .64, asymptotic $p = .003$), indicating that a PTS raw score of 10 or higher had a sensitivity of .67 and a specificity of .59 in the prediction of TSCYC-identified PTSD.

### Table 1

<table>
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<tr>
<th>TSCC scale</th>
<th>ANX</th>
<th>DEP</th>
<th>ANG</th>
<th>PTS-I</th>
<th>PTS-AV</th>
<th>PTS-AR</th>
<th>DIS</th>
<th>SC</th>
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<td>.18*</td>
<td>.07</td>
<td>.17</td>
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<td>.10</td>
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<td>.17*</td>
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<tr>
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<td>.05</td>
<td>.06</td>
<td>.09</td>
<td>.12</td>
<td>.12</td>
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<tr>
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<td>.24</td>
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<td>.09</td>
<td>.18*</td>
<td>.10</td>
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</table>

Bolded coefficients represent correlations between theoretically equivalent TSCC and TSCYC scales.

* $p < .005$ (two-tailed tests).
TSCC and TSCYC scales appear to converge in their assessment of symptomatology in children, especially for anxiety, depression, anger, dissociation, and sexual concerns. In each instance, despite different information sources (i.e., caretaker- vs. child-report), equivalent scales were typically most highly correlated with one another. Similarly, the TSCC PTS and TSCYC PTS-I scales correlated generally as expected, and discriminant function analysis indicated that the TSCC PTS scale was the best predictor of TSCYC PTSD status among sexually abused children. Post-hoc univariate analyses reinforced the PTS-PTSD relationship, but also indicated a redundant relationship between ANX and PTSD. These results support the discriminant validity of the TSCC, since PTS and ANX are obvious components of PTSD, whereas those TSCC scales less indicative of PTSD (depression, anger, dissociation, and sexual concerns) were not predictors of PTSD status. They also suggest that PTSD can be statistically discriminated from other trauma-related symptoms in children, since the TSCYC diagnosis was not significantly related to other symptoms also found to be more prevalent in the sexually abused subsample. These findings do not, however, address current controversies regarding the possibility that childhood PTSD differs phenomenologically from the PTSD experienced by adults (Nader, 2004), since the TSCYC PTSD items correspond to current DSM-IV criteria.

Despite the general concordance between TSCC and TSCYC scales, there were two instances when the TSCC and TSCYC scales did not converge. First, the TSCYC PTS-AV scale failed to correlate with any TSCC scale. Second, the PTS-AR scale correlated with the TSCC ANX scale, but not with the PTS scale. The absence of a significant association between the TSCC PTS scale and either the PTS-AV or PTS-AR scales of the TSCYC likely reflects the primary focus on intrusive-reliving symptoms in the TSCC. The PTS scale contains only two avoidance items, and relegates hyperarousal entirely to the ANX scale (hence the correlation between PTS-AR and the TSCC ANX). Beyond the underrepresentation of avoidance items in the TSCC PTS scale, it is also possible that PTS-AV was not correlated with TSCC scales because, in fact, it measures the child’s tendency toward avoidance, a phenomenon that might easily cause the child’s symptoms to be less apparent to the parent/caretaker. Finally, it is likely that caretaker evaluation of children’s avoidance is an implicitly difficult task, since the rater is being asked to identify the absence of something in the child (e.g., memory, emotional response, desire to engage in certain activities). In this instance, PTS-AV might not correlate with TSCC scales due to caretaker difficulties in accurately identifying the child’s internal experience.

Despite the general concordance of TSCC and TSCYC scales, the discriminant validity of the TSCC PTS scale regarding TSCYC PTSD status, the size of the relevant TSCC-TSCYC relationships was relatively small. This outcome was hypothesized, given that the TSCC and TSCYC rely on different informants. For example, various studies indicate only moderate correlations between the child- and caretaker-report versions of the Child Behavior Checklist (e.g., Achenbach, McConaughy, & Howell, 1987; Kolko & Kazdin, 1993). This phenomenon may occur not only when scales do not tap entirely equivalent symptomatology, but also when (a) children under- or overreport their symptoms relative to their caretaker’s more accurate assessment (Elliott & Briere, 1994), and/or (b) caretakers over- or underreport children’s symptoms in contrast to the children’s more accurate report (Friedrich, 2002; Reid, Kavanaugh, & Baldwin, 1987).

The only moderate correlation between child- and caretaker-report can be a clinical advantage as well as, in some cases, presenting an interpretive issue. Obviously, too much convergence would mean that the use of measures from both sources would be redundant; for example, if the Depression scale of both the TSCC and TSCYC were highly correlated, only one measure would be necessary in any given assessment. At the same time, this would mean that any bias in one measure (e.g., under- or overreporting of symptoms) might be replicated in the other. Instead, the optimal situation would be if each measure’s Depression scale correlated moderately with the other, but each also added information regarding depressive symptomatology that was not available from the other measure. In this way, the use of multiple measures, each with a different reporting source, might allow the assessing clinician to more effectively “triangulate” symptomatology in potentially traumatized children. Further, in instances where one informant is less reliable than the other (e.g., a nondisclosing child or a psychologically compromised parent), the clinician would have the opportunity to give greater credence to the other
informant’s responses. For these reasons, evaluators who have access to only one source of information on child trauma symptoms (i.e., solely child- or caretaker-report) should take into account the limitations potentially associated with this reduced input (Nader, 2004).

In summary, the current study suggests that source of information on at least some psychological tests may affect the outcome of psychological testing. In the current case, child- and parent-report of the child’s trauma symptoms were only moderately correlated. At the same time, these disparate sources of information converged on most of the underlying symptom dimensions putatively shared by the TSCC and TSCYC, thereby reinforcing each measure’s discriminant validity vis a vis the other. These results are interpreted as supporting the simultaneous use of both child- and parent-report measures when assessing trauma-related symptomatology in children.

References


