

Assessing Violence Exposure and Trauma Symptoms in Young Children: A Critical Review of Measures

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The acknowledgment of the existence of age-specific posttraumatic stress symptoms in infants, toddlers, and preschoolers points to the urgent need for standardized assessment tools for violence exposure and trauma symptoms in young children. The authors review the assessment measures currently available for the evaluation of potentially traumatic events (PTE) and posttraumatic stress disorder (PTSD) symptoms in children less than 6 years old. Each measure is described and its strengths and weaknesses discussed in a developmental context, while also considering the specific difficulties inherent to the assessment of young children. Recommendations for further test development are given.

The use of standardized measures in the diagnosis of psychiatric disorders has been increasingly recommended as a practice standard (Carter, Briggs-Gowan, & Davis, 2004) for adults and children, but the use of these instruments in the diagnosis and treatment of young children continues to lag. Only recently have mental health experts agreed that young children suffer from psychiatric syndromes that are not primarily neurodevelopmental or congenital in etiology and that mood and anxiety disorders exist in children less than 6 years old. Currently, child mental health professionals agree that the impact of adverse life events in early childhood on the formation of early and later onset psychopathology cannot be underestimated. Researchers have demonstrated that young children display discrete traumatic responses and research studies have concluded that posttraumatic stress disorder (PTSD) symptoms clearly exist in young children (Gaensbauer, 1994; Scheeringa, Peebles, Cook, & Zeanah, 2001; Scheeringa & Zeanah 2003; Terr, 1988).

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The detection of PTSD symptoms in young children is of utmost importance because poor developmental outcomes are commonly associated with untreated trauma symptoms (Grych, Jouriles, Swank, McDonald, & Norwood, 2000; Yates, Dodds, Sroufe, & Egeland, 2003). Posttraumatic stress phenomena influence a number of developmental processes including cognitive functioning, initiative, personality style, self-esteem, outlook, and impulse control (Pynoos & Nader, 1991). Prominent personality changes have been reported in very young children (Gislason & Call, 1982; Terr, 1988). Childhood trauma studies have also consistently found regressive behavior and a marked change in attitude toward the future with negative expectations and a sense of foreshortened future (Pynoos & Eth, 1986; Pynoos & Nader, 1991).

In this article, we will discuss briefly the challenges of PTSD assessment in young children, but there will not be an exhaustive discussion of these issues, instead our aim is to critically review the measures that are currently available for the assessment of violence exposure and PTSD symptoms in children less than 6 years old. Our goal is to help guide clinicians and researchers in selecting appropriate measures, and review specific needs for progress in this area.

Challenges of Assessment

Assessing symptoms in young children that do not have readily observable behavioral manifestations is especially difficult. Parents and caretakers are notoriously poor at identifying internalizing symptoms in children of any age and this is especially true of young children due to their immature verbal skills and their inability to communicate complex emotions (Achenbach, McConaughy, & Howell, 1987; Kolko & Kazdin, 1993). Simply stated, the younger a child is the less they are able to understand a potentially traumatic event (PTE) and adequately report how their emotions are tied to that event. It is especially difficult for young children to express their inner experiences and feelings with language. Parental report may also vary drastically from those of the child. Parents tend to emphasize and overreport externalizing symptoms, while underreporting internalizing symptoms (Achenbach et al., 1987; Kroes, Veerman, & De Bruyn, 2003; Querido, Eyberg, Boggs, 2001); hence, it is likely that parents are less cognizant of the severity of internalizing symptoms and their role in PTSD.

In addition to the innate developmental complexities inherent in evaluating and assessing PTSD symptomatology in this age group, there are at least two other related and significant assessment issues. The first is the identification of the potentially traumatic event (PTE) that has precipitated the symptoms. Unfortunately, parents are often unaware of a child's PTE, and when aware underestimate the impact of an event on their child (Richters & Martinez, 1993). The second dilemma regarding evaluation of young children for PTSD is the high correlations found between parents' PTSD symptoms and those of their young children (Laor, Wolmer, & Cohen, 2001; Wolmer, Laor, Gershon, Mayes, & Cohen, 2000). This correlation is likely to make accurate assessment of young children's symptoms more complicated. Parental report may be influenced by the parent's own level of PTSD symptomatology or affective symptoms (Briggs-Gowan, Carter, & Schwab-Stone, 1996; Richters, 1992). It is difficult, but essential, to ascertain the relationship between the parental and child symptoms. The potential for transmission of anxiety symptoms from caretakers to their young children makes it especially necessary for the evaluator not to rely solely on caretaker reports and perform comprehensive assessments of the individual child. These aforementioned difficulties have resulted in the understandable lack of effective and practical assessment tools.

Assessment Considerations

The child assessment should include standardized measures that involve use of simple questions that include

play representation. Children as young as 2 years of age have the ability to mentally represent and utilize pretend play to signify actual or imagined events; however, they are not able to accurately answer questions related to frequency, duration, or amount until age 6 (Wilkening, Levin, & Druyan, 1987). Therefore, "yes" or "no" or forced choice questions are the most appropriate for younger children if an assessment is to be question based. Inclusion of play observations and creation of observable and documentable behavioral criteria during the course of the evaluation should be key components for a thorough assessment. A measure that allows for repeated administrations over time is also important given that posttraumatic symptoms are likely to be present immediately following a traumatic event and then wane (Blanchard, Hickling, Barton, & Taylor, 1996; Riggs, Rothbaum, & Foa, 1995) and also may reoccur if exposed to a traumatic reminder.

Regardless of the ostensible reason for referral, a good clinical assessment of young children should always include an evaluation of the child's development, adaptive functioning, and overall symptom picture. However, here we will only review assessment measures that specifically address PTEs and the subsequent development of PTSD symptomatology and will not discuss the full range of assessment tools that should be used when evaluating young children.

The measures selected for this review are based on the following criteria: (a) The measure was designed specifically to measure PTSD symptoms or violence exposure or it has been used for this purpose in at least one published research study, and (b) it has been used with children under the age of 6 years. The instruments reviewed seemed to fall into two general categories of either measurement of violence exposure only or PTSD symptoms—PTSD diagnosis; therefore, measures were divided into these two categories for review.

Violence Exposure Measures

A search using key words in Psych Info and Health/Psychosocial Instruments databases, and review of reference materials of psychological measures and tests yielded only four violence exposure measures specifically for young children (See Table 1. In addition to these four violence exposure-specific measures, several of the measures of PTSD symptoms and diagnosis have a violence-trauma exposure section. These will be reviewed later.

Trauma Exposure Symptom Inventory-Parent Report

The Trauma Exposure Symptom Inventory-Parent Report (TESI-PR; Ford et al., 2000) is a measure of trauma exposure used with parents of children aged 3 to 18 years.

Table 1. Violence Exposure Measures

Measure	Age in years	N of items	Interviewer training level	Respondent	Language	Convergent validity	Interrater reliability	Test-retest reliability	Internal consistency reliability
TESI-PR	3–18	24	Minimal	Caregiver	English Spanish	—	—	Kappas ranging from .50–.79	—
TESI-PRR	0–6	15	Minimal	Caregiver	English Spanish	—	—	—	—
VEX-PV	4+	25	Moderate	Child	English Hebrew Spanish	No significant relationship VEX-PR and VEX-PV; Significant correlation between VEX-PV and CBCL total scores	—	—	Alpha .80 mild violence to .86 severe violence
VEX-PR	4–6	22	Minimal	Caregiver	English	No significant relationship VEX-PR and VEX-PV	—	—	Alpha .72

Note. TESI-PR = Traumatic Events Screening Inventory–Parent Report; TESI-PRR = Traumatic Events Screening Inventory–Parent Report Revised; VEX-PV = Violence Exposure Scale–Preschool Version; VEX-PR = Violence Exposure Scale–Parent Report; CBCL = Child Behavior Checklist –None reported.

Questions range from queries for accidental trauma such as “Has your child ever been in a serious accident like a car accident, a fall, or a fire?” to queries of sexual trauma. Parents are asked to indicate whether their child has experienced an event, and if so, to give the child’s age(s) when the event(s) occurred and whether the child experienced reactions in response to the stressor such as becoming extremely frightened, confused or helpless, shocked or horrified, or behaving differently after the event was over. The instrument has adequate test–retest reliability (see Table 1). The TESI-PR was not designed for use with very young children and it lacks some of the potentially traumatic events of early childhood (e.g., separation from a primary caregiver). The measure was revised to more specifically address children under the age of 6 (see TESI-PRR below).

Trauma Exposure Symptom Inventory-Parent Report Revised

The Trauma Exposure Symptom Inventory-Parent Report Revised (TESI-PRR; Ghosh et al., 2002) is a revision of the original TESI-PR (see above). The new version was developed for specific use with children aged 0 to 6 years. It is a parent report measure designed to screen for a wide range of PTE for children including accidents, abuse, witnessing community and domestic violence, and terrorism. As with the TESI-PR, parents indicate the ages of the

child when an event occurred and if the child experienced reactions to the event.

Currently, there are no psychometric data available for the TESI-PRR. No teacher or childcare worker versions exist and there has been no attempt to correlate the TESI-PRR with child play or report.

Violence Exposure Scale for Children-Preschool Version

The Violence Exposure Scale for Children-Preschool Version (VEX-PV; Fox & Leavitt, 1995) is a self-report inventory administered in an interview format with children aged 4 to 10. The questions are administered in a story format and include three validity questions. The administrator reads to the child about violence that has happened to or been witnessed by a character named “Chris.” Pictures illustrate each question and there are male and female versions. The child is asked the number of times a specific event that happened to “Chris” has happened to him or her. The child responds by pointing to a pictorial thermometer, which indicates that an event has happened to him or her *never, 1 time, a few times, or lots of times.*

This measure has several strengths. It is the only measure that is directly administered to children. It also has a parent-report version (see below) to which it can be compared. The VEX-PV also has several noteworthy weaknesses. It can only be used with children 4½ and older given the need for language and size–amount concept

understanding. Shahinfar, Fox, & Leavitt, (2000) studied a sample of 155 3½- to 4½-year-old children using the VEX-PV. They found that only 73 out of 155 children gave a clear indication that they understood the VEX-PV. This indicates that administrators would need careful training to ensure their ability to determine that each child understands the task. The VEX-PV also does not sample some areas of PTE such as accidents or loss of a loved one that could be precursors to PTSD. Although the VEX-PV provides categorical information about the frequency of violence exposure, it provides no information about when the violent events occurred in the child's life or the child's reaction to them. Limited psychometric data are available for the preschool version of this measure. Further work is needed to standardize the VEX-PV and better understand its limits and utility with children less than 5 years old. A revised version of the VEX (VEX-R; Fox & Leavitt, 1995) has been used extensively with older children and shown good reliability and validity with school age children (Raviv, Raviv, Shimoni, Fox, & Leavitt, 1999; Raviv et al., 2001).

Violence Exposure Scale for Children-Revised Parent Report

The Violence Exposure Scale for Children-Revised Parent Report (VEX-RPR; Fox & Leavitt, 1995) parallels the child report version. It requires parents to answer questions regarding their children's exposure to violence. For each item endorsed, the interviewer probes for information regarding when, where, and how the event occurred, who was involved and who was with the child at the time. The measure was designed for use with parents of preschool-aged children.

Although the measure asks questions related to violence, like the child version, it does not assess other PTE such as accidents or loss-separation from a caregiver. While it measures violence exposure in general, it does not ask specifically if the violence is within the home between relatives or in the community at large. There are no psychometric data available for this measure. Shahinfar et al. (2000) found a poor concordance rate between the VEX parent report and the VEX-PV administered to children, which is consistent with previous studies (Pynoos et al., 1987; Richters & Martinez, 1993). The lack of relationship between the VEX-PV and the parent report is not surprising given (a) the uncertainty about whether young children understand the task of identifying events that have happened to them directly, (b) their difficulty quantifying their experiences in terms of frequency, and (c) the likelihood that parents both underestimate and are

unaware of some of the traumatic events witnessed by their children.

PTSD Symptom and Diagnosis Measures

A similar database and reference search utilizing PTSD symptom measures identified seven instruments for review (see Table 2).

Trauma Symptom Checklist for Young Children

The Trauma Symptom Checklist for Young Children (TSCYC; Briere, 2000) is a caretaker report measure that can be used for children aged 3 to 12. Caretakers rate each symptom based on how frequently it has occurred in the last month on a 4-point scale. The TSCYC contains eight clinical scales: Posttraumatic Stress-Intrusion (PTSI), Posttraumatic Stress-Avoidance (PTSAV), Posttraumatic Stress-Arousal (PTSAAR), Sexual Concerns (SC), Dissociation (DIS), Anxiety (ANX), Depression (DEP), and Anger/Aggression (ANG). It also contains a summary posttraumatic stress scale, Posttraumatic Stress-Total (PTSTOT), and several scales to ascertain the validity of caretaker reports response level (RL) and atypical response (ATR).

Briere et al. (2001) conducted a study to assess the reliability of the TSCYC. The sample included 219 children aged 3 to 12 with a mean age of 7 (see Table 2). Gilbert (2004) found that TSCYC scales exhibited substantial concurrent validity (*rs* ranging from .55 to .82) with three parent report measures, the Child Behavior Checklist (CBCL; Achenbach, 1991), Child Sexual Behavior Inventory (CSBI; Friedrich, 1998), and Child Dissociation Checklist (CDC; Putnam, Helmers, & Trickett, 1993). Specifically, the TSCYC ANX and DEP scales were most related to the CBCL Anxiety/Depression scale, the TSCYC ANG was most correlated with CBCL Aggression scale, the TSCYC DIS scale correlated highest with the CDC, and the TSCYC SC scale was most related to the CSBI. Normative trials for the English version of the TSCYC with 750 children were recently completed. This allows for the calculation of standard T-scores based on the age (3 to 4, 5 to 9, and 10 to 12 years) and sex of the child.

This scale is convenient because it is in a checklist format that is easy to administer and requires minimal training. The validity scales and other scaled scores are also useful. The manual that accompanies the TSCYC states that the standardization sample contained a small number of 3- and 4-year-olds ($N = 149$) and the use of

Table 2. Trauma Symptom Measures

Measure	Assesses	Age in years	N of items	Interviewer training level	Respondent	Language	Convergent validity	Interrater reliability	Test-retest reliability	Internal consistency reliability
TSCYC	Symptoms	3-12	90	Minimal	Caregiver	English Spanish	.52 to .82 with CBCL, CSBI, CDC Measure	—	Kappa .79	Clinical Scales Alpha .73-.93.
PTSD semi-structured interview and observation	PTE, symptoms, diagnosis	0-6	8 violence exposure 29 PTSD symptoms	High	Caregiver but includes child observation	English German Hebrew	Measure symptoms are associated with increased heart rate IBI	Kappa .74-.79	—	—
PTSD-PAC	Symptoms	3-5	18	Minimal	Caregiver	English	—	—	—	Alpha .79
PT-SIC	PTE, symptoms, diagnosis	4-8	30	Moderate	Child	English	With TSCC .64	—	Kappa .87	Alpha .91
Modified semi-structured interview and PTSD-RI	PTE, symptoms	3-5	22 questions plus free play and drawing	High	Child	English	—	—	Kappa .85	—
PAPA	PTE, symptoms, diagnosis	2-5	PTSD module only; 66 PTE and 32 PTSD symptom	High	Caregiver	English Spanish	PTSD diagnosis on PAPA consistent with elevated CBCL scores	—	PTSD scale Kappa .73	—
CBCL	Symptoms	1½-5	100	Minimal	Caregiver	English Spanish	Poor, not correlated to PTSD-PAC	—	—	Alpha .80-.89

Note. PTE = Potentially Traumatic Event; IBI = Interbeat Interval; TSCYC = Trauma Symptom Checklist for Young Children; PTSD-PAC = Posttraumatic Stress Disorders in Preschool Aged Children; PT-SIC = Posttraumatic Symptoms Inventory for Children; PAPA = Preschool Aged Psychiatric Assessment; CBCL = Child Behavior Checklist; CSBI = Child Sexual Behavior Inventory; CDC = Child Dissociative Checklist; TSCC = Trauma Symptom Checklist for children; PTSD-RI = PTSD Reaction Index; —None reported.

the TSCYC to make a diagnosis of PTSD with this age group is inappropriate. Additionally, the scale does not ask any questions related to repetitive play or regression of previously learned skills, which have been shown to be traumatic stress indicators in young children (Scheeringa et al., 2001). Last, the scale makes no attempt to interview or directly observe the child.

Posttraumatic Stress Disorder Semi-Structured Interview and Observation Record

The Posttraumatic Stress Disorder Semi-Structured Interview (Scheeringa & Zeanah, 1994) is an examinee-based interview of the primary caretaker with the child present in the room. The interview first asks the child's parent about a series of traumas the child may have experienced. If a parent endorses a trauma, she is then asked when it occurred and if she considered the event traumatic for the child. Next, the interviewer reads a series of stem questions about each PTSD symptom. If a respondent endorses a symptom, then the interviewer asks for specific examples until convinced of presence of the symptom and some level of dysfunction as a result. For example, "Has your child had flashbacks, where it looks like he's reliving the event and reacting to it?" The interviewer asks for specific examples observed by the parent and then requests information about the onset, frequency, and duration of the symptom.

Symptoms measured by the interview include those from the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)*; American Psychiatric Association, 1994) criteria list and other developmentally based young child symptoms such as loss of previous skills, new separation anxiety or aggression that have been studied by the measure's authors (Scheeringa & Zeanah, 2003; Scheeringa et al., 2001). The scale allows raters to diagnose using the alternate criteria set established by the authors, which is similar to the Diagnostic Classification of Mental and Developmental Disorders in Infancy and Early Childhood (DC: 0-3, ZERO TO THREE Diagnostic Classification Task Force, 1994), or the *DSM-IV* criteria.

Although the most thorough of the parent-administered interviews (with some good convergent and predictive validity; see Table 2) (Scheeringa, Zeanah, Myers, & Putnam, 2004; Scheeringa, Zeanah, Myers, & Putnam, 2005), this measure requires a high level of clinical skill. The interviewer must observe symptoms of the child while directing questions to the parent and making critical decisions about the symptoms described by the parent. The scale does come with a coding manual to help

users identify signs and symptoms, and with high-quality interviewers, this measure yields a more accurate diagnostic picture than checklist versions such as the TSCYC. Although this measure does attempt to include direct observation of the child during the course of the parent interview, it does not include any direct interviewing of the child either verbally or in play form.

PTSD Symptoms in Preschool Children

The PTSD Symptoms in Preschool Children (PTSD-PAC; Levendosky, Huth-Bocks, Semel, & Shapiro, 2002) is a caregiver-completed measure based on the *DSM-IV* criteria for PTSD with additional items related to young children. Parents report the presence or absence of symptoms and the number of endorsed items is summed to create a total score. Some of the questions were based on those used by Scheeringa and Zeanah (1994) in their semistructured interview. Parents are asked to endorse the presence of symptoms including those relevant to reexperiencing (playing out event with toys, having dreams about event, having flashbacks, avoidance, hyperarousal, and loss of previously attained skills). Parents are asked to answer each item in relation to their child's behavior since the traumatic event. Although this measure seems more focused on young children than the TSCYC, it still relies solely on parent report and asks no questions about the frequency or onset of symptoms. It incorporates some of the young child-focused symptoms developed by Scheeringa and Zeanah in their measure; but it does not include the observational component.

Posttraumatic Symptom Inventory for Children

The Posttraumatic Symptom Inventory for Children (PT-SIC; Eisen, 1997) is administered to children aged 4 to 8. It assesses PTSD symptoms based on the *DSM-IV* criteria and includes a checklist to screen for 11 traumatic events (e.g., car crashes, sexual abuse, witnessing or experiencing community violence). Questions are administered to children in a two-level decision tree. A child is asked the first part of the questions such as: "Do you think about bad things that happened to you even when you don't want to?" If the child responds in the negative, a score of 0 is given for that item, but if they report they do have the symptoms, then they are asked a question targeted at the frequency (e.g., *a real lot—like everyday* or *just sometimes*). The frequency is then coded as either 1 (*some*) or 2 (*lots*). The questionnaire yields total scores ranging from 0 to 60 that reflect the frequency of symptoms. Posttraumatic stress disorder can be

diagnosed based on endorsement of items for each criterion of the *DSM-IV* (B, C, and D). The PT-SIC takes into account some of the necessary components of young child assessment in that it considers carefully the wording of the items, and breaks the questions into smaller more understandable phrases for children. A validation of the instrument by Eisen (1997) was done on a sample of 220 children aged 4 to 17. It is unclear how many of these children were under the age of 6, and the use of children over 8 is suspect because the measure was intended for children 4- to 8-years-old. The author also used the Trauma Symptom Checklist for Children (TSCC; Briere, 1996) as a measure of convergent validity (see Table 2), and although the TSCC is a measure of trauma symptomatology, it is only administered to children aged 8 and above. The measure does not address the specific needs of children under 6 and was not tested on children under the age of 4. Although the author made the wording of the questions simple to meet the cognitive abilities of preschool children, the use of frequency probes is questionable. No published studies were found using this measure.

Modified Semi-Structured Interview and PTSD Reaction Index

Pynoos and Nader (1991) developed a PTSD semistructured interview (PTSD-RI) for children aged 7 and above with good verbal abilities; however, in its original form, the PTSD-RI was not meant for use with children under the age of 6. Therefore, Nader, Stuber, and Pynoos (1991) developed a modification of this measure for use with children aged 3 to 5 combined with direct observation of the child at play. The semistructured interview used for this study required interviewers to ask the children specific questions with regard to their symptoms (e.g., "I try not to talk about, think about, or have feelings about what happened."), but also required the interviewer to observe these symptoms during the interview. The interviewer watched for symptoms of avoidance, denial, and reenactment.

For this specific study of bone marrow transplant patients (Nader et al., 1991), the interview began with the child being asked to draw a picture and tell a story about it. This was followed by 20 to 30 minutes of free play with an assortment of toys. Following the free play, children were asked to describe themselves before their trauma, the nature and cause of their trauma, and their hospital experience. Children were asked to draw pictures of themselves before their illness, during the worst moment of the illness, and at the time of the interview. Finally, children responded to a series of questions from the orig-

inal PTSD Reaction Index. Children's responses to these questions were coded as "yes" "no" or "unknown." The entire interview was videotaped.

This interview contains many of the components that make up a thorough assessment of young children including forced choice questions and the use of direct observation and play with the child. It was unclear from the study how the information gathered during the drawings or play was coded. This portion of the interview clearly requires a high level of interviewer skill and a coding for specific behavioral markers created to determine symptom presence or absence. Some of the language in the PTSD Reaction Index is complex and may be difficult for 3-year-old children to understand; for example, "I feel like I am back at the time when the bad thing happened, living through it again." Last, there is no psychometric data available for this assessment method and it has not been used in any further studies to date.

Preschool Aged Psychiatric Assessment

The Preschool Aged Psychiatric Assessment (PAPA; Egger, Ascher, & Angold, 1999) is an interviewer-based structured parental interview for the comprehensive assessment of mental health symptoms in children aged 2 through 5. It is based on the Child and Adolescent Psychiatric Assessment (CAPA), which is for children aged 9 to 18. The PAPA was developed based on modifications of the *DSM-IV* and International Classification of Diseases (ICD-10; World Health Organization, 1993) criteria for younger children and utilizing the Diagnostic Classification for 0 to 3 (ZERO TO THREE Diagnostic Classification Task Force, 1994) criteria. The PAPA provides definitions of symptoms and mandatory probes that the interviewer must ask. Interviewers code each symptom for the frequency, intensity, duration, and date of onset focusing primarily on the 3 months preceding the interview. For the PTSD section of the PAPA, the parent is first asked about a variety of life events that may have happened to his or her child (e.g., accidents, loss, divorce, move, etc.) and second, if the parent believes the event has attributed to a symptom (e.g., separation anxiety, new fears, physical symptoms, etc.). If the child has at least one life stressor and one attribution, the interviewer continues with the PTSD section of the PAPA asking questions about the "event that is the most upsetting to the child." The parent is then asked a series of questions related to PTSD symptoms in children. These symptoms include reexperiencing ("In the last 3 months have upsetting memories or pictures in his/her mind of 'life event' come back to him/her?"), play capitulating, changes in play, retelling of the event,

failures of recall, dissociation, nightmares, night terrors, hyperarousal, night waking, decreased concentration, irritability, increased aggression, hypervigilance, numbing, loss of affect, loss of previously acquired skills, new onset or intensification of fears, and other behaviors (e.g., dangerous activities, omen formation, survivor guilt).

The PAPA requires interviewer training, which currently includes several days of didactic training and at least four practice interviews. Training is coordinated by the Center for Developmental Epidemiology at Duke University Medical Center. Test–retest reliability and construct validity data have been collected for the full PAPA (Egger et al., 2004).

The PAPA is an impressive instrument that is thorough in its evaluation of a wide range of psychiatric disorders in young children including an entire section devoted to PTSD; however, it is quite lengthy, requires a great deal of training, and has not been used solely for the measurement of PTSD symptoms. However, it may be possible to extract the PTSD module from the full PAPA when specifically focusing on trauma symptomatology. One element of PTSD that is not part of the PTSD module is the assessment of a reduction of interest in previously significant activities. This component must be extracted from the major depression section.

The PAPA's early psychometric properties look promising (see Table 2) but further standardization is necessary. It does not include any child interview or observation component, which would, when administering the entire PAPA, make the interview prohibitively lengthy, but could be added if only the PTSD module were to be used.

Child Behavior Checklist

The Child Behavior Checklist (CBCL; Achenbach & Rescorla, 2000) was not specifically designed to measure PTSD in children; however, several researchers (Levendosky et al., 2002; Wolfe, Gentile, & Wolfe, 1989) have used the CBCL and created a post hoc PTSD scale from items in the previous versions of the CBCL (4–18) and CBCL (2–3). The CBCL is a behavior checklist completed by parents that was recently updated with new age ranges (1½ to 5 and 6 to 18). The new versions contain similar items to the previous ones with some additions. Parents rate each item as *not true*, *somewhat or sometimes true*, or *very true/often true* within the last 2 months. The 20 PTSD items on the 4- to 18-year version are as follows: argues, difficulty concentrating, obsessive thoughts, clinging, irrational fears, feels persecuted, nervous, nightmares, fearful/anxious, guilty, headaches, nausea, stomachaches,

vomiting, secretive, sullen/irritable, labile mood, difficulty sleeping, sad, and withdrawn.

At best, the use of the CBCL in this manner should be as a screening tool because it was not developed to assess PTSD specifically. More-extensive questions regarding stress responses would need to be posed to make a diagnosis of PTSD. Parents complete the measure within a general context and they are not asked to answer questions related to a specific traumatic event or to document changes in behavior but only to note a presence or absence of a wide variety of behavioral symptoms. Levendosky et al. (2002) found no correlation between the CBCL PTSD scale and a measure they created specifically to measure PTSD symptoms (PTSD-PAC see description above).

Discussion

Until recently, almost no PTSD measures for young children existed that had reliability or validity data available. The inherent difficulty in assessing a complex psychological disorder with children who may not have the ability to understand or verbalize their own internal experiences is clear. This has led to a focus on creation of parent checklists and interviews like the TSCYC and PAPA, which have shown promising psychometrics. The TSCYC is the only PTSD-specific measure designed for administration to young children that has undergone normative sampling and standardization. While TSCYC has some items that are applicable to children under the age of 5, it appears more appropriate for 5- to 12-year-olds. It does not include items about play symptoms, regression in skills, or developmental concerns, and it involves no direct observation of the child. Although the PTSD-PAC is focused more on the younger child, it also depends entirely on the parent report of symptoms. Checklists such as these should never be used to make a definitive diagnosis of PTSD. They do not include the essential data about onset, frequency, and duration of symptoms, and they do not assess whether symptoms have resulted in functional impairment of the child; these data are needed to make a clinical diagnosis of PTSD in children. The PAPA and PTSD Semi-Structured Interview and Observation Schedule are the only reviewed measures that include all of these needed diagnostic components.

Scheeringa and Zeanah's Posttraumatic Stress Disorder Semi-Structured Interview seems to be the most comprehensive parent interview that has used available research and clinical knowledge to create a developmentally appropriate diagnostic tool that allows direct observation of the child. This aspect requires a high level of clinical skill and knowledge on the part of the

interviewer. However, it makes it a valuable clinical and research measure and comes closest to the suggested middle ground of the instruments reviewed here. The semistructured interview developed by Nader and her colleagues (Nader, Stuber, & Pynoos, 1991) has some interesting components (drawing and free play observation) that make it useful in the direct assessment of child symptoms; however, it does not include parent report, requires the child to answer some fairly complex questions about their emotional experiences, and appears to be rather lengthy.

Measurement of violence exposure in the young child presents inordinate challenges. All measures reviewed except the VEX-PV are administered to parents. This does not allow for direct assessment of what the child has experienced and relies entirely on parent's awareness of their children's experiences. The administration of the VEX-PV and VEX-RPR together would appear to be the best option available in terms of checking consistency of reporting of exposure; however, Shahinfar et al. (2000) found poor concordance between parent and child report of exposure to violence using the VEX-PV and VEX-RPR. At this time, it is not clear how to understand this lack of concordance. The VEX measures also do not assess domestic violence exposure specifically or other trauma such as accidents or loss and it can only be used with children age $4\frac{1}{2}$ or older. Even then, it must be administered with due consideration of the individual child's cognitive and language skills. The TESI-PRR appears to be the best available option. It is the most thorough assessment of trauma exposure for the widest age range of young children. The measure was developed purposely for use with children under 6, and it addresses some of the potentially traumatic events that are specific to this age group (e.g., separation from a primary caregiver or a person whom the child depends on for love and security, attack by a dog or animal, witnessing domestic violence; neglect; verbal threatening, etc.). It also asks specific probes about how old the child was at the time of the event and whether the child was strongly affected by the event. This measure was only recently developed and needs further psychometric study; however, it was based on an earlier version of the TESI created for children as young as 4 years of age which has shown good psychometric properties.

Despite the recent attention and improvement of standardized measures for young children, assessment measures of trauma symptoms and PTE in young children currently lack a measure that pragmatically includes all the necessary components of parent report, direct observation and assessment of the child as well as good psychometric data. The Posttraumatic Stress Disorder Semi-Structured

Interview and Observation is the only measure that allows for the diagnosis of PTSD using developmentally specific criteria that includes both parent interview and child observation. However, the "observation" portion of the interview is not well defined.

Recommendations for Instrument Development

Clearly, the standardized measurement of PTSD and its symptoms in children under the age of 6 presents a tremendous challenge for the field. On the one hand, a comprehensive evaluation necessitates the use of multiple informants, a play interview with the child utilizing a protocol, and a clinician skilled in the assessment and treatment of young children. On the other hand, practicality demands that a standardized assessment be expeditious and acceptable to those with a wide range of clinical skill and experience. Undoubtedly, a compromise between comprehensive and expeditious must be struck.

The current movement to create better assessments for young children across a variety of domains is crucial to the provision of the best possible mental health care; studies have shown that early intervention with children is essential to the improvement of later functioning and development (Berkowitz, 2003; Silva et al., 2003). For the assessment of trauma exposure and PTSD, there is a need for the creation of measures that will utilize both parent report and direct assessment of the child. The Modified Semi-Structured Interview and PTSD Reaction Index utilized by Nader and colleagues for their 1991 study (Nader et al., 1991) of bone marrow transplant patients attempted to capture these needed ingredients. The use of "yes" or "no" questions along with play observation and drawing is the kind of assessment that is the most applicable to children this age.

Assessment measures such as the MacArthur Story Stem Battery (MSSB) (Bretherton, Ridgeway, & Cassidy, 1990) and the Berkeley Puppet Interview (BPI) (Ablow & Measelle, 1993) are two measures that have been used to assess young children directly. Neither of these instruments is used for the assessment of PTSD symptomatology; however, they utilize doll play and puppets as a way to engage and interview young children. The BPI has been used with children as young as $4\frac{1}{2}$ (Ablow et al., 1999) and the MSSB has been used with 3- to 6-year-olds (Bretherton et al., 1990; Stover, Van Horn, & Lieberman, in press). The creation of a measure using these kinds of strategies with young children to assess PTSD symptoms would be helpful to use in conjunction with parent report interviews such as the PAPA or Semi-Structured Interview for PTSD. Based on the psychometric data from the

BPI and the MSSB this method could potentially be used with children 3- to 6-years-old. This approach needs to be studied to determine children's ability to report on their internal experiences in this way. A measure of this type would be administered in conjunction with a semistructured parent interview that assesses symptoms including frequency and duration, as children are not able to accurately report on these constructs.

Overall, some progress has been made in the development of assessment measures for PTSD and violence exposure in young children especially with regard to parent report instruments. However, further investigations with regard to the feasibility of the development of measures that effectively assess PTSD symptoms directly with young children are warranted.

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