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Evidence-Based Psychosocial Treatments for Children and Adolescents Exposed to Traumatic Events

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The article reviews the current status (1993–2007) of psychosocial treatments for children and adolescents who have been exposed to traumatic events. Twenty-one treatment studies are evaluated using criteria from Nathan and Gorman (2002) along a continuum of methodological rigor ranging from Type 1 to Type 6. All studies were, at a minimum, robust or fairly rigorous. The treatments in each of these 21 studies also are classified using criteria from Chambless et al. (1996), and Chambless and Hollon (1998). Trauma-Focused Cognitive-Behavioral Therapy met the *well-established* criteria; School-Based Group Cognitive-Behavioral Treatment met the criteria for *probably efficacious*. All the other treatments were classified as either *possibly efficacious* or *experimental*. Meta-analytic results for four outcomes (i.e., posttraumatic stress, depressive symptoms, anxiety symptoms, and externalizing behavior problems) across all treatments compared to waitlist control and active control conditions combined reveal that, on average, treatments had positive, though modest, effects for all four outcomes. We also cover investigative work on predictors, moderators, and mediators of treatment outcome, as well as the clinical representativeness and generalizability of the studies. The article concludes with a discussion of practice guidelines and future research directions.

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More than 25% of children and adolescents in the United States are exposed to a traumatic event by the age of 16, and many of these youth are exposed to repeated events (Costello, Erkanli, Fairbank, & Angold, 2002). High rates of traumatic exposure among youth have been found across studies, but the rates vary by sample characteristics and type of trauma. For example, prevalence rates of sexual abuse among female youth are estimated as being as high as 40%, with a comparable figure of 13% among males (Bolen & Scannapieco, 1999). Reported rates of exposure to community violence among youth are higher, with rates of witnessing violence as high as 85% and rates of victimization as high as 66% (Stein, Jaycox, Kataoka, Rhodes, & Vestal, 2003). Whereas rates of exposure to disasters usually are lower than for other traumatic events, with rates further varying by region, when disaster strikes, large proportions of youth are typically effected (La Greca & Prinstein, 2002).

Research has documented that exposure to traumatic events leads to diverse negative reactions among youth. For example, in the Great Smoky Mountains Study (a 10-year longitudinal study using a large representative sample), exposure to at least one traumatic event by age 16 was reported by 68% of the youth (Copeland, Keeler, Angold, & Costello, 2007), with 13.4% of these youth reporting posttraumatic stress symptoms (Angold, Costello, Farmer, Burns, & Erkanli, 1999). Lifetime occurrence of anxiety (9.8%), depressive (12.1%), and disruptive behavior disorders (19.2%) for youth exposed to trauma also was found to be high (Copeland et al., 2007). In terms of the potential for a successful adult life, one longitudinal study that followed abused and neglected youth (McGloin & Widom, 2001) found that only 22% of this sample later met criteria for resilience along eight domains of functioning (e.g., employment, education, psychiatric disorder). Additional exemplary and worrisome indicators, among others, were that only one fifth experienced successful employment, less than 50% graduated from high school, and more than half had a psychiatric disorder (McGloin & Widom, 2001). Such findings suggest a need for early intervention and treatment for children and adolescents who have been exposed to traumatic events.

Treatment research on ameliorating youths' adverse reactions following their exposure to traumatic events is relatively recent. The focus on child physical and sexual abuse has a longer history, dating back to the early 1970s with creation of the federal government's National Center on Child Maltreatment. Authorization of the National Child Traumatic Stress Network (NCTSN) by the United States Congress in 2000 heightened national attention on the problem of child and adolescent trauma and stimulated research on treatment and dissemination of evidence-based practices. Although the treatment research literature is relatively limited, the emphasis on widespread dissemination of evidence-based treatments (e.g., Hoagwood et al., 2007) calls for scrutiny of the treatment literature. Reviews of psychosocial treatments for reducing youth posttraumatic stress disorder, a common reaction following trauma exposure, have been conducted by a number of investigators (e.g., Feeny, Foa, Treadwell, & March, 2004; Taylor & Chemtob, 2004). There also have been reviews (e.g., Chaffin & Freidrich, 2004; Putnam, 2003; Saunders, Berliner, & Hanson, 2003), and a meta-analysis reporting an effect size of .54 (Skowron & Reinemann, 2005), focusing on psychosocial treatments for reducing the effects of child maltreatment, specifically sexual and physical abuse. Several reviews also have focused on psychosocial treatments for reducing youth posttraumatic stress disorder and posttraumatic stress symptoms following youth exposure to terrorism and natural disasters (e.g., Comer & Kendall, 2007; La Greca & Silverman, 2006).

This article offers an updated review of psychosocial treatments for children and adolescents who have been exposed to traumatic events. In contrast to the reviews just cited, this review covers a range of trauma types (not just child maltreatment, for example) and reactions (not just posttraumatic stress, for example). The article begins by reporting on the classification of each of the 21 studies using the criteria of Nathan and Gorman (2002) (described next), followed by the classification of each psychosocial treatment investigated within each of these 21 studies using the criteria of Chambless et al. (1996), and Chambless and Hollon (1998): *well-established treatments, probably efficacious treatments, possibly efficacious treatments*, and *experimental treatments* (also described next). After providing a narrative evaluative summary of each study, we report results from a series of meta-analyses. The subsequent section reviews studies, if any, that have investigated predictors, mediators, and moderators of treatment outcome. The article concludes with a discussion about the clinical representativeness and generalizability of the studies conducted to date, practice guidelines, and future research directions.

In using the word *traumatic*, we rely on the definition provided in the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text rev.; *DSM-IV-TR*; American Psychiatric Association, 2000), which states a traumatic event is one

> that involves (1) actual or threatened death or serious injury, or a threat to one's physical integrity, or witnessing an event that involves death, injury, or a threat to the physical integrity of another person; or learning about unexpected or violent death, serious harm, or threat of death or injury experienced by a family

> member or other close associate [and (2)] the person's response to the event must involve intense fear, helplessness, or horror. (p. 463)

For the purpose of this review, children and adolescents are broadly defined to include youth from birth to 17-years-old.

METHOD

Search

An extensive electronic search was conducted of the child and adolescent psychosocial treatment literature published between the years 1993 and 2007 using the PsycINFO, Medline, and PILOTS databases. The year 1993 was chosen as a starting point because that is when the child and adolescent trauma research field is generally viewed as having emerged (Saigh, Green, & Korol, 1994). The following keywords were used to conduct the literature search: *trauma, abuse, exposure, disaster, earthquake, flood, hurricane, tornado, shooting, violence, accident, posttraumatic stress, posttraumatic stress disorder, child, adolescent, infant, efficacy, effectiveness, clinical trial, randomized clinical trial, therapy, intervention*, and *treatment*. Manual searches of the following journals also were conducted: *Journal of Consulting and Clinical Psychology, Journal of the American Academy of Child and Adolescent Psychiatry, Journal of Clinical Child and Adolescent Psychology, Journal of Child Psychology and Psychiatry, Journal of Traumatic Stress*, and *Child Maltreatment*, and *Child Abuse and Neglect*. As an additional search method, we reviewed the reference lists of all the treatment articles and trauma treatment reviews found.

Inclusion/Exclusion Criteria for Study Selection

Articles identified by the search were coded to determine which would be appropriate for inclusion in our review and the meta-analysis. A careful review of each article was conducted by the second author and two undergraduate research assistants. All articles were coded for type of traumatic exposure (e.g., sexual abuse, violence, terrorism), problem areas treated (e.g., posttraumatic stress symptoms, depression), participants demographic characteristics (i.e., age, race/ethnicity, sex), and sample size. Also coded were treatment setting (e.g., school, hospital, clinic), treatment format (e.g., individual, group, family), and type of experimental control (e.g., waitlist, pre-post). Several telephone conference calls were then held among all of the authors, as well as additional members of the NCTSN to review the aforementioned summary data and to determine which studies were characterized by child and/or adolescent sample, random assignment, and exposure to a traumatic event.

Studies selected for inclusion were randomized clinical trials (RCTs) that evaluated psychosocial treatments for use with children and adolescents who had been exposed to traumatic events. Youth exposure to traumatic events was the basis for inclusion, rather than the specific psychological outcome(s), such as posttraumatic stress and/or anxiety symptoms. The reason is that a myriad of diverse outcomes has been assessed across studies, with no single outcome assessed universally. The focus on RCTs would allow inferences that were as valid as possible regarding treatment efficacy (Kazdin, 1999; Roth & Fonagy, 2005). If valid inferences about treatment efficacy can be drawn from this literature, then researchers would have enhanced assurance that these treatments are worthy of further development and evaluation. Similarly, practitioners would be more assured that these treatments are worthy of implementation. Effect size parameters also were collected from the articles and the data were entered into a database. Effect parameters included pre- and posttreatment means, pre- and posttreatment standard deviations, and samples sizes for all conditions in each study.

Given our article's focus on psychosocial treatments, studies evaluating pharmacotherapy (e.g., Harmon & Riggs, 1996) and massage therapy (e.g., Field, Seligman, Scafidi, & Schanberg, 1996) were excluded. Also excluded were studies that used pre-post designs with no comparison conditions (e.g., Dyregrov & Gjestad, 2003; Saltzman, Pynoos, Layne, Steinberg, & Aisenberg, 2001), as well as studies that used pre-post designs with a comparison condition, but lacked random assignment (e.g., March, Amaya-Jackson, Murray, & Schulte, 1998; Thabet, Vostanis, & Karim, 2005; Tourigny, Hébert, Daigneault, & Simoneau, 2005). Also, treatment studies with strong empiricism but without measurement of psychological outcomes were not included (e.g., Chaffin et al., 2004).

Guided by the aforementioned inclusion and exclusion criteria, 21 treatment studies were identified for inclusion, as well as 2 additional studies that presented follow-up data for 2 of the 21 treatment studies. In addition to using a RCT design, all 21 studies were characterized by methodological features of efficacy trials. These included multisource assessments, manualized treatments, and clearly described statistical analyses (e.g., Chambless & Hollon, 1998; Chambless et al., 1996). Table 1 presents a summary of the 21 treatment studies and their characteristics including participants' demographics, sample size, type of trauma, and number of sessions in treatment, as well as their classification with respect to methodological rigor using Nathan and Gorman's (2002) criteria.

Overview of Studies Included

Overall, 11 of the 21 studies (52%) targeted children and adolescents who were victims of sexual abuse. Three of the 21 studies (14%) targeted children and adolescents who were physically abused, 3 studies (14%) targeted children and adolescents exposed to community violence, 1 (5%) study targeted children and adolescents exposed to a major hurricane, 1 (5%) study targeted children and adolescents exposed to marital violence, 1 (5%) study targeted children and adolescents involved in a motor vehicle accident, and 1 (5%) study targeted children and adolescents exposed to any single incident trauma event (e.g., motor vehicle accident, community violence).

Posttraumatic stress disorder (PTSD) and posttraumatic stress symptoms (PTSS) were the most commonly assessed outcome variables, in 14 of the 21 studies (67%). The next most commonly assessed outcome was depressive symptoms, in 12 of the 21 studies (57%). Internalizing and externalizing behavior problems were assessed in 11 of the 21 studies (52%), followed by anxiety symptoms, in 9 of the 21 studies (43%). Most of the 21 studies assessed additional outcome variables including the following: Inappropriate sexual behavior in 6 of the 21 studies (29%); attributions and perceptions about traumatic events in 3 of the 21 studies (14%); fear in 3 of the 21 studies (14%); coping in 2 of the 21 studies (10%), and social skills, also in 2 of the 21 studies (10%). Learning problems and child violence toward parents were each assessed in one study (5%).

Procedures Used to Evaluate the 21 Studies and the Treatments Investigated Within Each Study

As noted, two classification schemes were used to evaluate the treatment research conducted in the area. The first was Nathan and Gorman (2002), in which studies are classified along a continuum of methodological rigor ranging from Type 1, most methodologically rigorous, to Type 6, least methodologically rigorous (see next). The second classification was based on criteria delineated by Chambless and colleagues (1998) and Chambless and colleagues (1996) in which treatments are classified by levels of evidence in terms of either well-established or probably efficacious; in addition, the classification described by Chambless and Hollon (1998) as possibly efficacious and experimental were used. Narrative evaluative summaries are provided for all studies classified as well-established, probably efficacious, and possibly efficacious.

An additional evaluative procedure used, and for which results are reported in this article, is meta-analysis. Meta-analysis (Glass, McGaw, & Smith, 1981; Hedges & Olkin, 1985; Hunter & Schmidt, 1990) allows researchers to (a) combine treatment effect sizes across studies and (b) investigate whether differences found across studies can be explained by hypothesized moderator influences. This meta-analysis investigated whether type of trauma, type of treatment, and parent involvement affect outcome. The findings are reported in the meta-analytic results section of the article.

RESULTS

Classification of Studies Based on Nathan and Gorman's Criteria

Nathan and Gorman's (2002) criteria delineate six types of studies. Type 1 studies are the most rigorous and involve randomized, prospective clinical trial methodology. Type 1 studies must involve comparison groups with random assignment, blinded assessments, clear presentation of inclusion and exclusion criteria, state-of-the-art diagnostic methods, adequate sample size to offer statistical power, and clearly described statistical methods. Type 2 studies are clinical trials in which an intervention is tested, but at least one aspect of the Type 1 study requirement is missing. Examples of Type 2 studies include a trial in which a double blind cannot be maintained, a trial in which two treatments are compared but assignment is not randomized, and a trial with a clear but not necessarily fatal flaw (e.g., no follow-up data).

According to Nathan and Gorman (2002), Type 2 studies do not merit the same consideration as Type 1 studies, but they still may make important contributions to the knowledge base. As Table 1 indicates, most of the studies covered in this article are Type 1. The remaining studies classified as Type 2 were so classified because they lacked follow-up assessments, lacked adequate statistical power to detect medium effect sizes, or both (Kazdin & Bass, 1989). As mentioned earlier, studies were excluded from this review because they lacked sufficient methodological rigor for the purpose of classifying treatments as evidence based and were therefore neither Type 1 nor Type 2.

Classification of Treatments Based on Chambless et al. (1996) and Chambless and Hollon (1998)

Criteria from Chambless and colleagues (Chambless & Hollon, 1998; Chambless et al. 1996) were used to classify the level of evidence for each treatment. See Table 2 for the criteria used to classify treatments as well-established treatments, probably efficacious treatments, possibly efficacious treatments, and experimental

TABLE 1
Characteristics of Psychosocial Treatment Studies for Youth Trauma Reactions

Study	Type of Trauma	N	Age Range (Years)	% Girls	No. of Sessions/ Duration	% Ethnic Minority: African American	Hispanic/ Latino	Asian/ Pacific	Mixed Race	Other	Study Type*
Ahrens & Rexford (2002)	Violence	38	15–18	0	12/60 min	26	5	7	39	3	2
Berliner & Saunders (1996)	Sexual abuse	154	4–13	89	10/NR	11	6	—	—	9	1
Celano et al. (1996)	Sexual abuse	32	10–13	100	8/60 min	75	3	—	—	—	1
Chemtob et al. (2002)	Hurricane	32	6–12	69	4/NR	—	—	100	—	—	1
Cohen & Mannarino (1996b)	Sexual abuse	67	3–6	58	12/90 min	42	—	—	—	4	1
Cohen & Mannarino (1997)	Sexual abuse	43	4–7	56	12/90 min	44	—	—	—	—	1
Cohen & Mannarino (1998)	Sexual abuse	49	7–15	69	12/90 min	37	2	2	2	—	1
Cohen et al. (2004)	Sexual abuse	229	8–14	79	12/90 min	28	4	—	7	1	1
Cohen et al. (2005)	Sexual abuse	82	8–15	68	12/90 min	37	1	—	2	—	1
Deblinger et al. (1996)	Sexual abuse	90	7–13	83	12/90 min	20	6	—	—	2	1
Deblinger et al. (1999)	Sexual abuse	90	8–17	83	12/90 min	21	7	—	—	2	1
Deblinger et al. (2001)	Sexual abuse	44	2–8	61	11/120 min	21	2	—	—	14	1
Fantuzzo et al. (1996)	Physical abuse/ Neglect	46	3–5	59	15/NR	100	—	—	—	—	2
Fantuzzo et al. (2005)	Physical abuse/ Neglect	82	3–5	50	15/NR	100	—	—	—	—	2
Jaberghaderi et al. (2004)	Sexual abuse	14	12–13	100	12/45 min	—	—	—	—	100	2
Kataoka et al. (2003)	Violence	198	6–14	50	8/NR	—	100	—	—	—	2
King et al. (2000)	Sexual abuse	36	5–17	69	20/50 min	NR	NR	NR	NR	NR	1
Kolko (1996)	Physical abuse	43	6–13	28	12/60 min	47	—	—	6	—	1
Lieberman et al. (2005)	Marital violence	65	3–5	52	50/60 min	15	28	—	—	3	1
Smith et al. (2007)	Single event trauma	24	8–18	50	10/N R	33[a]	—	8	—	13	1
Stallard et al. (2005)	Motor vehicle accidents	158	7–18	53	1/NR	NR	NR	NR	NR	NR	2
Stein et al. (2003)	Violence	126	10–11	56	10/NR	NR	NR	NR	NR	NR	2
Trowell et al. (2002)	Sexual abuse	71	6–14	100	30/50 min	0	0	7	10	3	1

Note: Dashes indicate zero. NR = not reported.
[a]Participants in Smith et al. (2007) listed as Black British.
*Studies are classified by type using Nathan and Gorman's (2002) criteria.

treatments. Table 3 provides a summary classification for each treatment included in the meta-analysis.

Trauma-Focused Cognitive-Behavioral Therapy (TF-CBT) was the only treatment to meet the well-established criteria for children and adolescents exposed to trauma.[1] TF-CBT met the well-established criteria because the treatment was found to be statistically significantly superior to psychosocial placebo or to another treatment in at least two group-design experiments conducted in at least two independent research settings and by two independent investigatory teams (see Table 2). School-Based Group Cognitive-Behavioral Therapy (referred to as Mental Health for Immigrants Program in Kataoka et al., 2003, and Cognitive-Behavioral Intervention for Trauma in Schools in Stein et al., 2003) met Chambless et al.'s (1996) probably efficacious criteria. These treatments met criteria for probably efficacious because one or more trial met the criteria for well-established treatment, but the trials were not conducted by at least two independent investigative teams. Resilient Peer Treatment (RPT; Fantuzzo, Manz, Atkins, & Meyers, 2005; Fantuzzo et al., 1996), Family Therapy (FT; Kolko, 1996), Client-Centered Therapy (CCT; Cohen, Deblinger, Mannarino, & Steer, 2004), Cognitive-Processing Therapy (CPT; Ahrens & Rexford, 2002), Child-Parent Psychotherapy (CPP; Lieberman, Van Horn, & Ippen, 2005), Cognitive-Behavioral Therapy for PTSD (Smith et al., 2007), and Eye Movement Desensitization and Reprocessing (EMDR; Chemtob, Nakashima, & Carlson, 2002; Jaberghaderi, Greenwald, Rubin, Zand, & Dolatabadi, 2004) met criteria

[1]The labels used by investigators to refer to the treatment have occasionally varied and have included individual Child Cognitive-Behavioral Therapy (Deblinger, Lippmann, & Steer, 1996), Cognitive-Behavioral Therapy for Sexually Abused Preschool Children (Cohen & Mannarino, 1996b), Sexual Abuse Specific Cognitive-Behavioral Therapy (Cohen & Mannarino, 1998), Cognitive-Behavioral Therapy (Jaberghaderi, Greenwald, Rubin, Zand, & Dolatabadi, 2004), Child Cognitive-Behavioral Treatment and Family Therapy (King et al., 2000), and Individual Child and Parent Cognitive-Behavioral Treatment (Kolko, 1996).

TABLE 2
Criteria Used to Evaluate Psychosocial Treatments for Children and Adolescents Exposed to Traumatic Events

Criteria 1: Well-Established.
- 1.1 There must be at least two group-design experiments, conducted in at least two independent research settings and by independent investigatory teams, demonstrating efficacy by showing the treatment to be:
- a) statistically significantly superior to pill or psychosocial placebo or to another treatment,
  OR
- b) equivalent (or not significantly different) to an already established treatment in experiments with statistical power being sufficient to detect moderate differences.
  AND
- 1.2 Treatment manuals or logical equivalent were used for the treatment.
- 1.3 Conducted with a population, treated for specified problems, for which inclusion criteria have been delineated in a reliable, valid manner.
- 1.4 Reliable and valid outcome assessment measures, at minimum taping the problems targeted for change were used.
- 1.5 Appropriate data analyses.

Criteria 2: Probably Efficacious.
- 2.1 There must be at least two studies showing the intervention to be more effective than no-treatment control (e.g., a waitlist comparison group).
  OR
- 2.2 One or more experiments meeting the Well-Established Treatment Criteria with the one exception of having been conducted in at least two independent research settings and by independent investigatory teams.

Criterion 3: Possibly Efficacious.
- 3.1 At least one study demonstrating efficacy suffices in the absence of conflicting evidence.

Criterion 4: Experimental.
- 4.1 Treatments not yet tested in trials meeting criteria for methodology.

Note. Adapted from Division 12 Task Force on Psychosocial Interventions' reports (Chambless et al. 1996) and from Chambless and Hollon (1998).

for possibly efficacious[2] (Chambless & Hollon, 1998). To be classified as possibly efficacious, a treatment needed to demonstrate efficacy compared to an alternative treatment or to a no-treatment control group coupled with the absence of evidence from other studies that the treatment produced either no effect or a negative effect (see Table 2).

The remaining treatments listed in Table 3—Standard Group Therapy, Standard Group Therapy + Stress Inoculation (Berliner & Saunders, 1996), Recovering from abuse program (Celano, Hazzard, Webb, & McCall, 1996), Individual Therapy + Carer Support, Group Therapy + Carer Support (Trowell et al., 2002), Group Cognitive-Behavioral Therapy, Support Group Therapy (Deblinger, Stauffer, & Steer, 2001), and Psychological Debriefing (Stallard et al., 2006)—were classified as experimental treatments because these treatments have not been shown to be superior to another treatment in trials meeting Chambless and Hollon's (1998) criteria for sound methodology. That is, the experimental treatments were compared to control conditions of unproven benefit (e.g., routine community services) rendering the findings from the studies "inherently difficult to interpret" (Chambless & Hollon, 1998, p. 8). Findings from all extant studies—including the measures used, significant pre- to posttreatment effects, as well as follow-up results (when available)—are summarized in Table 4. Because of the more tentative nature of the research findings obtained from experimental treatments, these treatments are not covered in the summary section that follows.

NARRATIVE SUMMARIES OF PSYCHOSOCIAL TREATMENT STUDIES

In this section, we begin by summarizing the RCTs corresponding to psychosocial treatments classified as well-established. Psychosocial treatments classified as probably efficacious and possibly efficacious are then described sequentially. In summarizing the studies' findings in the narratives next, the focus is on those outcome variables that, as noted, were most commonly assessed across studies, namely, PTSD, PTSS, internalizing and externalizing behavior problems, depressive symptoms, and anxiety symptoms. Table 4 provides further information about the significant effects found for *all* the other variables assessed in each study. The reader is encouraged to consult Table 4, because it contains further details about each study's battery of measures, as well as specific findings obtained on the various measures.

Well-Established Psychosocial Treatments

Trauma-Focused Cognitive-Behavioral Therapy

The most commonly investigated treatment has been TF-CBT (although, as noted, different labels have been used on occasion by investigators). All of the treatments

[2]RPT and EMDR both were classified as possibly efficacious rather than probably efficacious despite having been evaluated in two studies. With respect to RPT, improvements observed in this treatment were found in children who were maltreated as well as children who were not maltreated. Thus, whether the treatment approach shows treatment specificity effects, in terms of reducing reactions that follow child exposure to maltreatment, remains unclear. With respect to EMDR, although in Chemtob et al. (2002), the treatment was superior to a waitlist control condition (a necessary condition for probably efficacious), in the other EMDR study conducted by Jaberghaderi et al. (2004), which compared EMDR to CBT, the former was found to be statistically significantly superior over the latter on only one of the three measures administered (as well as there being several methodological limits including a sample size of 7 in each treatment condition).

TABLE 3
Evidence-Based Status of Psychosocial Treatments for Children Exposed to Trauma

Psychosocial Treatment	*Citation for Efficacy Evidence*
Well-established treatments	
Trauma Focused Cognitive-Behavioral Therapy	Cohen, Deblinger, Mannarino, & Steer (2004); Cohen & Mannarino (1996b, 1998); Cohen, Mannarino, & Knudsen (2005); Deblinger, Lippman, & Steer (1996); Jaberghaderi, Greenwald, Rubin, Zand, & Dolatabadi (2004); King et al. (2000); Kolko (1996)
Probably efficacious treatments	
School-Based Group Cognitive Behavioral Therapy	Kataoka et al. (2003); Stein et al. (2003)
Possibly efficacious treatments	
Resilient Peer Treatment	Fantuzzo, Manz, Atkins, & Meyers (2005); Fantuzzo et al. (1996); Group CBT Deblinger, Stauffer, & Steer (2001)
Cognitive Processing Therapy	Ahrens & Rexford (2002)
Eye Movement Desensitization and Reprocessing	Chemtob, Nakashima, & Carlson (2002); Jaberghaderi et al. (2004)
Client Centered Therapy	Cohen et al. (2004)
Family Therapy	Kolko (1996)
Child-Parent Psychotherapy	Lieberman, Van, Horn, & Ippen (2005)
Cognitive-Behavioral Therapy for PTSD	Smith et al. (2007)
Experimental treatments	
Standard Group Therapy + Stress Inoculation Training	Berliner & Saunders (1996)
Standard Group Therapy	Berliner & Saunders (1996)
Recovering from Abuse Program	Celano, Hazzard, Webb, & McCall (1996)
Support Group Therapy	Deblinger et al. (2001)
Individual + Carer Support	Trowell et al. (2002)
Group + Carer Support	Trowell et al. (2002)
Psychological Debriefing	Stallard et al. (2006)

share the following components: working with the children in an individual format; providing training in cognitive and behavioral procedures; and employing child exposure tasks via narratives, drawings, or other imaginal methods. Some of the treatments also include parent involvement in either individual meetings with parents (Cohen et al., 2004; Cohen & Mannarino, 1996b, 1998; Deblinger, Lippman, & Steer, 1996; Kolko, 1996) or joint child-parent meetings along with individual child and individual parent meetings (Cohen et al., 2004; Deblinger et al., 1996). Findings from these studies taken together provide support for the classification of TF-CBT as the only well-established treatment for children exposed to traumatic events. Each study is summarized next, using the same labels in the section headings as were used by the investigators.

Child-only intervention and child-only + parent-only intervention. Deblinger and colleagues (1996) compared two forms of CBT (Child-Only and Child-Only + Parent-Only) to two alternative treatment conditions in a sample of 100 sexually abused children and adolescents (7–13 years). Participants were randomly assigned to one of four conditions: Child-Only Intervention (CI; $n = 25$), Child-Only + Parent-Only Intervention (CI + PI; $n = 25$), Parent-Only Intervention (PI; $n = 25$), and standard therapeutic care ($n = 25$).

CI included a psychoeducational component in which youth were taught about healthy sexuality, child sexual abuse, and body safety skills; a behavioral component in which youth were engaged in gradual behavioral exposures; and a cognitive component in which youth were taught skills for coping with the sexual abuse. The treatment lasted 12 sessions/weeks; each session was 45 min in length. CI + PI consisted of CI, as just described, plus 45 min of individual parent training as well as joint child and parent sessions lasting 30 min. This condition was therefore longer in total number of minutes than CI or PI. The PI sessions involved teaching behavior management skills and providing psychoeducation about healthy sexuality, child sexual abuse, body safety skills, and communication. Parents also were taught strategies for coping with their own emotional difficulties resulting from their child's sexual abuse and modeling of these skills.

The 12 sessions/weeks PI condition (45 min) consisted of the parent components just listed for CI + PI (i.e., no CI components). In standard therapeutic care, the community control condition, parents were provided with information about their child's symptom patterns as well as referral sources and were strongly encouraged to seek treatment for their child. Of the 25 children and adolescents assigned to the community control condition, 12 received outside treatment; 13 did not receive any treatment. Families were assessed before randomization to treatment condition and after treatment

completion. When pre- to posttreatment comparisons were conducted by pooling data from the two CBT conditions (CI, CI + PI), results showed statistically significant greater reductions in youth PTSS, assessed via the Schedule for Affective Disorders and Schizophrenia (K-SADS-E; Orvaschel, 1995), than the PI or standard therapeutic care conditions. No other significant differences were found between the pooled CBT data and either PI or standard therapeutic care on any of the other measures.

Deblinger et al. (1996) also evaluated outcomes by comparing the two parent participation conditions (i.e., pooling the CI + PI data with the PI data) with each of the other two conditions (i.e., CI, standard therapeutic care). Results indicated that both parent participation conditions led to statistically significant reductions in parents' Child Behavior Checklist-Externalizing (CBCL-E; Achenbach, 1991) ratings and children's Child Depression Inventory (CDI; Kovacs, 1981) ratings relative to each of the two nonparent conditions. Interestingly, no significant pre- to posttreatment differences were found in parents' CBCL-Internalizing (CBCL-I) ratings. The discrepant findings on the parents' CBCL-E and CBCL-I ratings may reflect the fact that child externalizing behavior problems are more readily detectable by parents than child internalizing behaviors.

In Deblinger, Steer, and Lippmann's (1999) follow-up study of Deblinger et al. (1996), youth were readministered the PTSS scale of the K-SADS-E and CDI; parents were readministered the CBCL and Parenting Practices Questionnaire (PPQ; Strayhorn & Weidman, 1988) at 3, 6, 12, and 24 months posttreatment. The data from the two parent participation treatment conditions (i.e., CI + PI, PI) were again pooled. The data were not analyzed by pooling the two CBT conditions and comparing these data with each of the two alternative treatment conditions as in Deblinger et al. (1996). Maintenance of pre- to posttreatment gains on child PTSS and CDI ratings, and parent CBCL-E ratings were evident across the four follow-up periods.

Cognitive-behavioral therapy for sexually abused preschool children. Cohen and Mannarino (1996b) compared CBT for Sexually Abused Preschool Children (CBT-SAP; $n = 39$) to Nondirective Supportive Therapy (NST; $n = 28$) in 67 sexually abused children (2–7 years). Treatment lasted 12 sessions/weeks. Each session lasted approximately 90 min, with therapists spending approximately 45 min alone with the child and 45 min alone with the parent (or caregiver) in each condition.

The treatment is described as containing several strategies aimed at problems associated with child sexual abuse including ambivalence toward the perpetrator, attributions regarding sexual abuse, inappropriate sexual behaviors, and safety and assertiveness skills (Cohen & Mannarino, 1993). Problems were addressed through the use of developmentally appropriate therapeutic materials (i.e., coloring books, doll play, puppets), and the child's thoughts about sexual abuse and related fears and anxieties were dealt with. Techniques used included progressive relaxation, thought stopping, and positive imagery. Parent sessions in CBT-SAP addressed parents' ambivalence about believing their child about the abuse as well as their ambivalence toward the perpetrator. Parent sessions also included psychoeducation and cognitive reframing to address parental attributions of blame and parental fears that the sexual abuse caused irreversible damage to their child. Parents were further instructed in contingency management procedures to reduce their child's inappropriate sexual behaviors, fears, and anxiety symptoms. The NST condition was designed to control for the nonspecific aspects of therapy (e.g., contact with a therapist, the passage of time); to reduce child isolation, loneliness, hopelessness, and anxiety; and to improve parent and child understanding about the abuse. Emphasis was placed on rapport building and providing the parents and children with support and encouragement for the expression of feelings.

Results indicated that children in CBT-SAP showed significantly greater improvement pre- to posttreatment than children in NST on parents' CBCL-I, CBCL-E, and CBCL-Total ratings as well as parents' ratings of their child's inappropriate sexual behaviors using the Child Sexual Behaviors Inventory (CSBI; Friedrich et al., 1992). No other significant differences were found between the two conditions on any other measure.

Cohen and Mannarino (1997) reported 6- and 12-month follow-up data for 43 of the 67 (64%) children who participated in Cohen and Mannarino (1996b). For all three CBCL scales that had shown significant pre- to posttreatment improvements in Cohen and Mannarino (1996b), the positive gains were maintained for CBT-SAP at both 6 and 12 months. In addition, children in CBT-SAP continued to show maintenance in their reduction of inappropriate sexual behaviors using the CSBI, with further statistically significant improvement found between the 6- and 12-month follow-ups. No significant changes were observed for NST from posttreatment to 6- or 12-month follow-up on any measure, except the CBCL-Total from posttreatment to 6-month follow-up, but this improvement was not maintained at 12 months.

Sexual abuse specific cognitive-behavioral therapy. Cohen and Mannarino (1998) compared a Sexual Abuse Specific CBT (SAS-CBT; $n = 30$) condition

TABLE 4
Classification of Treatment Studies of Childhood Trauma Reactions Along Chambless et al. (1996)

Study	*Treatment Conditions*	*Source/Measures*
Cohen & Mannarino (1996b)	CBT-SAP NST	C/Preschool Symptom Self Report P/CBCL, CSBI, WBR
Deblinger, Lippman, & Steer (1996)	ICBT ICBT + PTPT STC	C/STAIC; CDI P/CBCL-I, E, PPQ CL/K-SADS-PTSD
Kolko (1996)	CBT FT RCS	C/CTS-Child to Parent Violence, SAFE, CAPS, YSR, CDI, FQ P/CTS, CBCL, CCI PS/CTS, CAPI, WRAI, BSI, BDI, GAF, POQ, CRI, Parenting Scale; PPI CP/CTS, WRAI CL/K-GAS
Cohen & Mannarino (1998)	SAS-CBT NST	C/STAIC, CDI P/CBCL, CSBI
King et al. (2000)	Child CBT Family CBT Waitlist	C/Fear Thermometer for Sexually Abused Children, CQ for Sexually Abused Children, RCMAS, CDI P/CBCL CL/ADIS-C-IV(PTSD), K-GAF
Cohen, Deblinger, Mannarino, & Steer (2004)	TF-CBT CCT	C/CDI, STAIC-T, CAPS P/CBCL, CSBI PS/BDI-II, PERQ, PSQ, PPQ CL/K-SADS-PTSD Scale
Cohen, Mannarino, & Knudsen (2005)	TF-CBT NST	C/CDI, STAIC, TSC-C P/CBCL; CSBI
Stein et al. (2003)	CBITS Waitlist	C/CDI, CPSS P/PSC T/TCRS
Kataoka et al. (2003)	MHIP Waitlist	C/CDI, CPSS
Fantuzzo et al. (1996)	Resilient Peer Treatment (RPT) Attention Control (AC)	T/SSRS; PPIC
Fantuzzo, Manz, Atkins, & Meyers (2005)	RPT AC	T/SSRS, PIPPS
Deblinger, Stauffer, & Steer (2001)	SGT GCBT	C/WIST, K-SADS-PTSS P/CBCL, CSBI PS/MBSS, SCL 90-PTSS, IES, PERQ, SSQ, PPQ
Ahrens & Rexford (2002)	CPT Waitlist	C/BDI, IES, PSS-SR
Chemtob, Nakashima, & Carlson (2002)	EMDR Waitlist	C/RCMAS, CDI CL/PTSD-RI
Smith et al. (2007)	CBT for PTSD	C/CPSS, IES, CAPS, DSRS P/ADIS-P

and Chambless and Hollon (1998) Criteria, Measures Used, and Significant Pre- to Posttreatment Effects and Follow-Up

Significant Pre to Posttreatment Effects	*Follow-Up*
CBT-SAP > NST on CBCL-I, E, Total; CSBI	6 and 12 month reported in Cohen & Mannarino (1997). CBT-SAP maintained all treatment gains; further improvement on CSBI from 6 to 12 months
Pooling ICBT and ICBT + PT > PT and STC on PPQ	3-month, 6-month, 1-year, and 2-year follow-up: PT and ICBT + PT maintained gains on PPQ only
All three treatments: FQ (Enemies in Neighborhood), PPI, POQ, Child Rearing Interview, BDI, FES CBT and FT: SAFE, CAPS (Feeling Different from Others, Interpersonal Trust) CBT and FT > RCS on BSI CBT > FT and RCS on FQ (Enemies in School) CBT > RCS on CCI	3-month and 1-year: All three treatments maintained all gains 1-year: FT > RCS on CBCL-E only
SAS-CBT > NST on CBCL-SC; CDI Both treatments: CSBI; STAIC-T	Not reported
Both CBTs > Waitlist on Fear Thermometer for Sexually Abused Children; CQ for Sexually Abused Children.	12-weeks: Child CBT & Family CBT maintained gains on all measures
Both treatments: all measures but PPQ TF-CBT > CCT on CDI; CAPS (Credibility, Trust); BDI-II, PERQ	Not reported
Both treatments: TSC-C (PTSS, Anxiety, Depression, Dissociation, Anger), CDI, STAIC, CSBI, CBCL-I, Total TF-CBT > NST on STAIC, CDI, TSC-C	6- month and 1-year: Both treatments maintained all gains but TSC-C (Sexual Behaviors) and CBCL-E
CBITS > Waitlist on CDI, CPSS, PSC	Six month: Treatment gains maintained on CDI, CPSS, PSC
MHIP > Waitlist on CDI, CPSS	Not reported
RPT > AC on SSRS (Self Control, Interpersonal Skills, Interactive Play, and Solitary Play Subscales).	Not reported
RPT > AC on the SSRS (I & E); PIPPS (interactive play & solitary play)	Not reported
Both Treatments: WIST, MBSS (Coping), SCL 90-PTSS, IES, PERQ, and PPQ (parent-child interactions). GCBT > SGT on WIST and IES	3 month: Both treatments maintained gains on all measures SGT > GCBT on PERQ
CPT > Waitlist on all measures	Not reported
EMDR > Waitlist on all measures	Six month: EMDR maintained gains on all measures
CBT for PTSD > Waitlist on all measures	Six month: CBT for PTSD maintained gains on all measures

(*Continued*)

TABLE 4
Continued

Study	*Treatment Conditions*	*Source/Measures*
Jaberghaderi, Greenwald, Rubin, Zand, & Dolatabadi (2004)	CBT EMDR	C/CROPS P/PROPS T/RTS
Lieberman, Van Horn, & Ippen (2005)	CPP Case Management	P/CBCL CL/DC: 0–3 (PTSS) PS/CAPS; SCL-90
Berliner & Saunders (1996)	SGT + Stress Inoculation Training SGT	C/FSSC-R, RCMAS, CDI, SAFE P/CBCL, CSBI
Celano, Hazzard, Webb, & McCall (1996)	RAP TAU	C/CITES-R P/CBCL (PTSD) PS/PAS CL/C-GAS
Trowell et al. (2002)	Individual + Carer Support Group + Carer Support	CL/C-GAS, K-SADS
Stallard et al. (2006)	Psychological Debriefing Neutral Discussion	C/IES, RCMAS, DSRS P/SDQ CL/PSS-SR

Note: CBT = cognitive behavioral therapy; CBT-SAP = CBT for Sexually Abused Preschool Children; NST = Nondirective Supportive Competence; CSBI = Child Sexual Abuse Inventory (Friedrich et al., 1992); WBR = Weekly Behavior Reports; ICBT = Individual CBT; Depression Inventory; PPQ = Parenting Practices Questionnaire (Strayhorn & Weidman, 1988); CL/ = clinician report about the child; Community Services; CTS = Child Tactics Scale (Straus, 1990); SAFE = Sexual Abuse Fear Evaluation Scales (D. A. Wolfe & Wolfe, 1986); FQ = Friendship Questionnaire (Bierman & McCauley, 1987); CCI = Child Conflict Index; PS/ = parent self-report; CAPI = Child Abuse Melisaratos, 1983); BDI = Beck Depression Inventory; GAF = Global Assessment of Functioning Scale (American Psychiatric Association, Loeber & Loeber, 1985); PPI = Parent Perception Inventory (Hazzard, Christensen, & Margolin, 1983); CP/ = child report about the parent; RCMAS = Revised Children's Manifest Anxiety Scale; ADIS-C-IV = Anxiety Disorders Inventory for Children–Version IV; K-GAF = Global CCT = Child-Centered Therapy; PERQ = Parent's Emotional Reaction Questionnaire (Mannarino & Cohen, 1996); PSQ = Parental Support toms; CBITS = Cognitive Behavioral Intervention for Trauma in Schools; CPSS-SR = PTSD Symptom Scale Self Report; PSC = Pediatric 1986); MHIP = Mental Health for Immigrants Program; RPT = Resilient Peer Treatment; AC = Attention Control; SSRS = Social Skills Scale (Fantuzzo, Coolahan, Mendez, McDermott, & Sutton-Smith, 1996); SGT = Support Group Therapy; GCBT = group CBT; WIST = What & Kilpatrick, 1990); IES = Impact of Events Scale (Horowitz, Wilner, & Alvarez, 1979); SSQ = Social Support Questionnaire (Zich & Temoshok, sing; DSRS = Depression Self-Rating Scale (Birleson, 1981); CROPS = Child Report of Posttraumatic Symptoms; PROPS = Parent Report of Classification for Clinicians (Zero to Three: National Center for Clinical Infants Programs, 1994); SGT = Standard Group Therapy; FSSC-R = Child Impact of Traumatic Stress Events (V. V. Wolfe, Gentile, Michienzi, Sas, & Wolfe, 1991); PAS = Parental Attribution Scale (Celano, CBQ = Conflict Behavior Questionnaire.

Significant Pre to Posttreatment Effects	*Follow-Up*
Both treatments: PROPS, RTS EMDR > CBT on CROPS	Not reported
CPP > Case Management on DC: 0-3; CBCL-Total CPP > Case Management on CAPS (Avoidance subscale) Both treatments: CAPS (Hyperarousal, Reexperiencing, Total); SCL-90.	Not reported
Both treatments: RCMAS, CDI, FSSC-R; CBCL-I, E, and CSBI.	One year and two: Both treatments maintained gains on all measures
Both treatments: CITES-R (PTSS and Powerlessness Subscales); CBCL (PTSD), PAS (Parent Self-Blame subscale) RAP > TAU on CBCL-I but significant pretreatment differences	Not reported
Both treatments: K-SADS (Reexperiencing & Avoidance subscales)	2 year: Both treatments maintained gains on K-SADS (Reexperiencing & Avoidance subscales)
Both treatments: IES, DSRS, RCMAS, SDQ Psychological Debriefing > Neutral Discussion on SDQ	Not reported

Therapy; C/ = child self-report; P/ = parent report about the child; CBCL- I, E, SC = Child Behavior Checklist–Internalizing, Externalizing, Social PT = Parent Training; STC = standard therapeutic care; STAIC-S, T = State-Trait Anxiety Inventory for Children–State, Trait; CDI = Child K-SADS = Schedule for Affective Disorders and Schizophrenia; PTSD-RI = Child Reaction Index; FT = Family Therapy; RCS = Routine CAPS = Children's Attributions and Perceptions Scale (Mannarino, Cohen, & Berman, 1994); YSR = Youth Self-Report (Achenbach, 1991); Potential Inventory (Milner, 1986); WRAI = Weekly Report of Abuse Inventory (Kolko, 1996); BSI = Brief Symptom Inventory (Derogatis & 1987); POQ = Parent Opinion Questionnaire (Azar, Robinson, Hekimian, & Twentyman, 1984); CRI = Child Rearing Interview (Stouthamer- K-GAS = Global Assessment Scale for Children; SAS-CBT = Sexual Abuse Specific-CBT; CQ = Coping Questionnaire (King et al., 2000); Assessment of Functioning for Children (American Psychiatric Association, 1987); TF-CBT = Trauma-Focused Cognitive-Behavioral Therapy; Questionnaire (Mannarino & Cohen, 1996); TSC-C = Trauma Symptom Checklist for Children (Briere, 1995); PTSS = posttraumatic stress symp- Symptoms Checklist (Jellinek, Murphy, & Burns, 1986); T/ = teacher report about the child; TCRS = Teacher-Child Rating Scale (Hightower et al., Ratings System (Gresham & Elliott, 1990); PPIC = Peer Play Interactive Checklist (Fantuzzo & Atkins, 1995); PIPPS = Penn Interactive Peer Play if Situation Test (Sarno & Wurtele, 1997); MBSS = Miller Behavior Style Scale (Miller, 1990); SCL-90 = Symptom Checklist-90 (Saunders, Arata, 1987); CPT = Cognitive Processing Therapy; PSS-SR = PTSD Symptom Scale- Self Report; EMDR = eye movement desensitization and reproces- Posttraumatic Symptoms; RTS = Rutter Teacher Scale; CPP = Child–Parent Psychotherapy; DC: 0–3 = Semistructured Interview for Diagnostic Fear Survey Schedule for Children–Revised (Ollendick, 1983); RAP = Recovering from Abuse Program; TAU = Treatment as Usual; CITES-R = Webb, & Hazzard, 1992); C-GAS = Children's Global Assessment Scale; SDQ = Strengths and Difficulties Questionnaire (Goodman, 1997);

to NST ($n = 19$) in 49 sexually abused children and adolescents (7–14 years). The SAS-CBT and NST conditions used in this study were similar in content, format, and duration to the CBT-SAP and NST conditions used with preschool children in Cohen and Mannarino (1996b). Details of how the treatments were adapted for use with older children were not provided.

SAS-CBT showed statistically significant greater pre- to posttreatment improvement than NST on the CBCL Social Competence scale and the CDI. Of interest, both SAS-CBT and NST showed significant improvement on the parent rated CBCL-I, CBCL-E, and Total subscales, parent CSBI ratings, and State Trait Anxiety Inventory for Children (STAIC; Spielberger, 1973) ratings, with no significant differences between the two conditions. In explaining the positive effects observed for NST, the authors noted, "many of the 7- to 14-year-old NST participants were able to figure out [coping] strategies, even without the directive cognitive interventions that were used in the CBT model, whereas few of the preschoolers were able to do this" (Cohen & Mannarino, 1998, p. 25).

Child cognitive-behavioral treatment. King et al. (2000) compared Child CBT ($n = 12$), Family CBT ($n = 12$), and a 24-week waitlist control condition ($n = 12$) in 36 sexually abused children and adolescents (5–17 years). Child CBT, consisting of 20 individual 50-min child sessions, involved psychoeducation, cognitive training, relaxation training, and imaginal exposures via discussions, drawings, writings, and role plays. Family CBT consisted of 20 individual 50-min child sessions plus 20 individual 50-min parent sessions. In the parent sessions, parents were trained in contingency management procedures, communication skills, and modeling positive coping behaviors.

Pre- to posttreatment comparisons showed statistically significant reductions for both Child CBT and Family CBT, but not the waitlist, on youth PTSS assessed via the Anxiety Disorders Interview Schedule for children (Silverman & Albano, 1996), the Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1978) and the CDI, with no significant differences between the two CBT conditions. These improvements were all maintained at 12-week follow-up, with again no significant differences between child CBT and family CBT.

Trauma-focused cognitive-behavioral therapy. Cohen et al. (2004) compared TF-CBT ($n = 114$) and Child-Centered Therapy (CCT; $n = 115$) in 229 sexually abused children and adolescents (8–14 years). Each condition lasted 12 weeks and included 90-min sessions (45 min with child; 45 min with parent). In 3 of the 12 TF-CBT sessions, the sessions were shortened to 30 min, during which time the therapist met together with the youth and parent to discuss the youths' writings and illustrations and to train parents in effective communication with their child. TF-CBT was similar in content and duration to CBT-SAP used with preschool children in Cohen and Mannarino (1996b), with therapeutic strategies adapted for use with older children. CCT, based on Finkelhor (1987), involved active listening, reflection, and empathy to enhance trust and self empowerment in the children and parents. Pre- to posttreatment comparisons revealed statistically significant improvements for both TF-CBT and CCT on the PTSS scale of the K-SADS, the CDI, and the STAIC, as well as parent CBCL-I and CBCL-E ratings. However, TF-CBT showed significantly greater improvement than CCT on all these measures, except the STAIC.

In another study evaluating TF-CBT, Cohen, Mannarino, and Knudsen (2005) compared TF-CBT ($n = 41$) and NST ($n = 41$) in 82 sexually abused children and adolescents (8–15 years). TF-CBT used in this study was similar in content and duration to the treatment used in Cohen and Mannarino (2004); the NST condition was similar in content and duration to that used in Cohen and Mannarino (1996b).

Results showed statistically significant improvement for both TF-CBT and NST on most of the study's measures, including youth self-ratings of PTSS, anxiety, depression, dissociation, and anger on the Trauma Symptoms Checklist for Children (TSC-C; Briere, 1995), the CDI and STAIC, as well as parent CBCL-I and CBCL-Total ratings. Of the study's six youth outcome measures, TF-CBT showed significantly greater improvements than NST on the following: the STAIC, CDI, and TSC-C Anxiety and Depression subscales.

Cohen et al. (2005) also reported 6-month and 12-month follow-up for treatment completers ($n = 49$) of both TF-CBT and NST. Continued improvement was observed for TF-CBT on youth self-ratings on the anxiety, depression, and dissociation TSC-C subscales and the STAIC at 6-month follow-up, with continuing improvement for dissociation at 12-month follow-up. Although no statistically significant improvements were reported for either treatment condition with respect to PTSS at 6-month follow-up, TF-CBT showed significant improvements for PTSS at 12-month follow-up. The authors noted that statistically significant differences for PTSS may have emerged at 12-month follow-up but not earlier because of the "insufficient sensitivity of the instrument [i.e., TSC-C PTSD] used to measure PTSD" (Cohen et al., 2005, p. 142) or because children in TF-CBT continued to improve whereas those in NST did not (Cohen et al., 2005). Cohen's *d* effect sizes

calculated at 12-month follow-up revealed a d of .30 both for parent-rated CSBI and CBCL Social Competence, and a d of .47 for child-rated PTSS on the TSC-C.

Cognitive-behavioral treatment. Kolko (1996) randomly assigned 55 youth (6–13 years) who had been referred for physical abuse or physical maltreatment to one of three conditions: Individual Child and Parent CBT (referred to by authors as CBT; $n = 25$), Family Therapy (FT; $n = 18$), or routine community services (RCS; $n = 12$). Both CBT and FT were composed of 12 one-hr sessions/weeks and included two follow-up home visits. Total duration of treatment in RCS varied but generally involved more weekly therapist contact hours than the other two conditions. CBT in this study was similar to the TF-CBTs previously described in other studies (e.g., Cohen & Mannarino, 1996b, 1998), with children and parents seen in separate treatment sessions by different therapists. FT focused on enhancing family functioning, relationships, and cooperation by helping families to understand and recognize coercive behaviors and to problem solve together. In RCS, families were referred for treatment services in the community, as prescribed by child protective services caseworkers.

A large battery of measures assessing five different domains was administered to the youth and parents. Of interest in this article was the domain Kolko (1996) referred to as child dysfunction and adjustment. Of the seven measures comprising this domain, CBT showed significantly greater improvement than both FT and RCS on three of the seven measures: the CBCL-E, the Child Conflict Index (Frankel & Weiner, 1990), and the Children's Global Assessment Scale (Shaffer et al., 1983). FT showed significantly greater improvement than RCS on the CBCL-E subscale only. Three-month and 1-year follow-up results showed that the statistically significant improvements on CBCL-E, Child Conflict Index, and Children's Global Assessment Scale for both CBT and FT were maintained.

Probably Efficacious Psychosocial Treatments

School-Based Group Cognitive-Behavioral Therapy

In this section, two studies (Kataoka et al., 2003; Stein et al., 2003) that provide support for the classification of School-Based Group CBT as a probably efficacious treatment for children exposed to traumatic events are summarized. The format (i.e., group) and targeted symptoms (i.e., PTSS, anxiety, and depression) were the same in both studies. The main difference between the studies is that Stein et al. used a sample of multiethnic schoolchildren (specific ethnic breakdown not indicated); Kataoka et al. used a sample of Latino immigrant schoolchildren.

Cognitive-behavioral intervention for trauma in schools. Stein et al. (2003) evaluated Group Cognitive-Behavioral Intervention for Trauma in Schools (CBITS) for children exposed to community violence who were experiencing trauma reactions. A total of 126 sixth-grade multiethnic students were randomized to either CBITS ($n = 61$) or a 3-month waitlist control condition ($n = 65$). CBITS targeted child PTSS, anxiety, and depression in 10 weekly group (5–8 students) sessions, each lasting one class period. Emphasis was placed on psychoeducation, graded exposures (e.g., writing and/or drawing), cognitive and coping skills training (e.g., thought stopping, relaxation), and social skills training.

Comparison of CBITS versus the waitlist showed significant reductions for CBITS in terms of children's self-ratings on the Child PTSD Symptom Scale (CPSS; Foa, Johnson, Feeny, & Treadwell, 2001) and CDI, and parents' ratings of their child's psychosocial dysfunction using the Pediatric Symptom Checklist (Jellinek, Murphy, & Burns, 1986). There were no significant differences between CBITS and the waitlist on teachers' ratings of the child's shyness/anxiousness, learning problems, and acting out. Results obtained from the waitlist participants after they received CBITS paralleled the initial CBITS sample data. Six-month follow-up data showed maintenance of treatment gains on all measures for all CBITS treated youth.

Mental health for immigrants program. Kataoka et al. (2003) compared the Mental Health for Immigrants Program ($n = 152$) to a waitlist control condition ($n = 46$) in 198 Latino immigrant children (Grades 3–8). Based on CBITS (Stein et al., 2003), the Mental Health for Immigrants Program was an eight-sessions/weeks school-based group CBT for use with children who had been exposed to community violence and were experiencing trauma reactions. Pre- to posttreatment comparisons showed that the Mental Health for Immigrants Program produced significant improvement on the CPSS and CDI relative to the waitlist. No follow-up data were reported.

Possibly Efficacious Psychosocial Treatments

The treatments that were classified as possibly efficacious fall into one of the following two categories: (a) They were developed and evaluated as primary experimental treatments, which were compared against

either a waitlist control condition (Ahrens & Rexford, 2005; Chemtob et al., 2002; Smith et al., 2007) or an active comparison condition (attention control: Fantuzzo et al., 1996; attention control: Fantuzzo et al., 2005; CBT: Jaberghaderi et al., 2004; case management: Lieberman et al., 2005), or (b) they were developed and evaluated to serve as comparison treatment conditions against primary experimental treatments (CCT: Cohen et al., 2004; FT: Kolko, 1996). Because the two treatments developed and evaluated to serve as comparison treatment conditions, CCT (Cohen et al., 2004) and FT (Kolko, 1996) were described in the aforementioned narrative summaries where the primary experimental treatment was described (i.e., TF-CBT: Cohen et al., 2004; Kolko, 1996), they are not described again in this section.

Eye movement desensitization and reprocessing. Chemtob et al. (2002) compared EMDR ($n = 17$) to a waitlist control condition ($n = 15$) in 32 Pacific Island children (6–12 years) exposed to Hurricane Iniki. All children met *DSM-IV* criteria for PTSD, using the Kauai Recovery Inventory (Hamada, Kameoka, & Yanagida, 1996), a 24-item self-rating scale adapted from the PTSD Reaction Index (Frederick, 1985). Consisting of four sessions/weeks, EMDR targeted child PTSS and fear via graduated imaginal exposures at the same time that the child tracked therapist hand movements with his or her eyes. Results indicated significant improvements for EMDR but not for the waitlist on all three measures: the RCMAS, CDI, and clinician-rated PTSS on the PTSD Reaction Index. Six-month follow-up data showed treatment gains were maintained on all measures.

Jaberghaderi et al. (2004) compared CBT ($n = 7$) and EMDR ($n = 7$) in sexually abused Iranian girls using the Child Report of Posttraumatic Symptoms (CROPS; Greenwald & Rubin, 1999), Parent Report of Posttraumatic Symptoms (PROPS; Greenwald & Rubin, 1999), and the Rutter Teacher Scale (RTS; Rutter, 1967). The total number of sessions in each condition varied, determined by treatment specific termination criteria (e.g., a score of 0 to 2 on the 0- to 10-point Subjective Units of Distress Scale; Shapiro, 1995). Jaberghaderi et al. noted that CBT used in this study was similar to CBT programs summarized earlier in this article (e.g., Deblinger et al., 1996); the EMDR condition was similar to Greenwald (1999). The authors further noted that EMDR focused more than CBT on skills development and gradual exposures to the girls' traumatic sexual abuse memory.

Pretreatment to posttreatment comparisons showed statistically significant improvements for both treatments on PROPS ratings and RTS ratings. EMDR, but not CBT, showed significant improvement on the CROPS. Cohen's *d* revealed large effect sizes for both treatment conditions on the CROPS (*d*s ranged 1.1–2.8) and PROPS (*d*s ranged 1.1–1.8). Medium effect sizes were found for both treatments on the RTS (*d*s ranged .71–.72). As the authors noted, statistical power was limited because of small sample size, thereby limiting the ability to detect small effects and significant differences. The efficiency of EMDR over CBT was further emphasized by the authors in that termination criteria were reached sooner in EMDR.

Resilient peer treatment. Fantuzzo et al. (1996) compared RPT ($n = 25$) to an attention control (AC; $n = 21$) in 46 African American children (3–5 years) enrolled in a Head Start program; the children were either maltreated ($n = 20$) or nonmaltreated ($n = 26$). Prior to treatment, children were observed in the classroom during regularly scheduled free play and peer interactions were rated as low interaction, average interaction, or high interaction on the Peer Play Interactive Checklist (Fantuzzo & Atkins, 1995). Maltreated and nonmaltreated children whose interactions were rated low were randomized either to RPT or AC; those whose interactions were rated average were assigned to AC; children whose interactions were rated high were assigned to RPT as resilient peers.

In RPT, associative play (i.e., interactive but not coordinated play) and collaborative play (i.e., coordinated play) were reinforced among child dyads comprised of children rated as either resilient or low interactive by a research assistant. The research assistant also redirected nonplay, solitary play, and social attention, as necessary. In the AC condition, play was neither reinforced nor redirected. Statistically significant differences were found for RPT but not AC on teacher ratings of child internalizing and externalizing behavior problems using the Social Skills Rating System (Gresham & Elliott, 1990). Pre- to posttreatment analyses showed no significant differences between maltreated and nonmaltreated children in either RPT or AC on the Social Skills Rating System.

In a later study, Fantuzzo et al. (2005) compared RPT ($n = 38$) to AC ($n = 44$) in a sample of 82 African American preschool children (3–5 years; 37 maltreated; 45 nonmaltreated) enrolled in a Head Start program. RPT and AC were similar in content and duration to the RPT and AC conditions used in Fantuzzo et al. (1996). Statistically significant differences were found for RPT but not AC on teacher ratings of child internalizing and externalizing behavior problems using the Social Skills Rating System and on interactive play using the Interactive Peer Play Observational Coding System. Pretreatment to posttreatment analyses showed no significant differences between maltreated and non-

maltreated children in either RPT or AC on the observational data and teacher ratings. Overall, RPT appears useful in improving play skills and social skills in children enrolled in a Head Start program. However, because RPT produced these improvements in children who were maltreated as well as children who were not maltreated, whether the treatment approach shows treatment specificity effects in terms of reducing reactions that follow child exposure to maltreatment requires further study.

Cognitive processing therapy. Ahrens and Rexford (2002) compared CPT ($n = 19$) to a waitlist condition ($n = 19$) in a sample of incarcerated male adolescents (15–18 years) with PTSD. CPT involved eight 1-hr sessions, psychoeducation about PTSS, having the adolescents provide taped or written narratives of their thoughts and feelings at the time of the traumatic event, and teaching cognitive strategies (Resick & Schnicke, 1993).

Results indicated that CPT showed statistically significant greater improvement than the waitlist condition on all three outcome measures: the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), Impact of Events Scale (Horowitz, Wilner, & Alvarez, 1979), and PTSD Symptom Scale-Self Report (Foa, Riggs, Dancu, & Rothbaum, 1993), with no improvement for the waitlist. Ahrens and Rexford (2002) cautioned against generalizing from their findings because of comorbid diagnoses in some participants. The authors noted a further limitation, specifically, the "slightly younger than expected sample" was given adult measures (Ahrens & Rexford, 2002, p. 212).

Child–parent psychotherapy. Lieberman et al. (2005) compared CPP ($n = 36$) and case management ($n = 29$) in 65 young children (3–5 years) who had witnessed or overheard marital violence. CPP lasted 50 weeks and included 60-min sessions with the mother-child dyad (M sessions = 32). The majority of parents (50%) and children (65%) attended more than 20 sessions of case management (M sessions not reported). CPP applied

> clinical strategies and clinical illustrations to address the following domains of functioning: play; sensorimotor disorganization and disruption of biological rhythms; fearfulness; reckless, self endangering, and accident prone behavior; aggression; punitive and critical parenting; and the relationship with the perpetrator of the violence and/or absent father. (Lieberman et al., 2005, p. 1242)

No further information was provided. Case management involved monthly telephone contact with the mothers as well as providing information about local mental health clinics including referrals. Pre- to post-treatment comparisons revealed statistically significant improvements for CPP, but not case management, on the CBCL-Total subscale and number of child PTSS symptoms on a semistructured interview.

Cognitive-behavioral therapy for posttraumatic stress disorder. Smith et al. (2007) compared CBT ($n = 12$) to a waitlist control condition ($n = 12$) in 24 children and adolescents (8–18 years) exposed to single-event traumas, including motor vehicle accidents, assault, or exposure to violence. Parents and youth were interviewed prior to inclusion in the study; all youth met *DSM-IV* criteria for PTSD on the basis of the Anxiety Disorders Interview Schedule (child and parent versions) (Silverman & Albano, 1996). CBT was based on the cognitive model of Ehlers and Clark (2000) adapted for youth. Although similar to the CBT interventions just summarized, according to Smith et al., their CBT intervention emphasized more heavily than other interventions the targeting of cognitive factors (i.e., disjointed and poorly elaborated trauma memories, misappraisals of trauma-related symptoms, dysfunctional coping strategies) that are believed to maintain PTS reactions. CBT in this study consisted of 10 weekly individual youth sessions and 10 individual parent sessions, with joint parent-child sessions, as needed.

Results indicated significant improvements for CBT, but not for the waitlist, on all youth self-rating scales of PTSS (i.e., CPSS; the Children's Attributions and Perceptions Scale [CAPS], Mannarino, Cohen, & Berman, 1994; and Children's Revised Impact of Events Scale, Perrin, Meiser-Stedman, & Smith, 2005), depression (i.e., Depression Self Rating Scale; Birleson 1981), and anxiety (i.e., RCMAS). Clinician-rated diagnostic status using the CAPS also improved significantly for CBT but not for the waitlist. Cohen's d was reported for the PTSS measures and were found to be large (e.g., $d = 2.48$ for the CAPS). Six-month follow-up data showed treatment gains for CBT were maintained on all measures.

Meta-Analyses

Procedure

The input to each of our meta-analyses was the set of effect sizes and their corresponding sample sizes. We computed the effect size as follows: We computed the difference in the outcome measures between pre- and post-treatment for the control and experimental conditions separately. The difference of these two differences was divided by the largest standard deviation (across the four standard deviations) to obtain an index of treatment effect. The largest standard deviation was

used as a conservative estimate of treatment effect size. Prior to meta-analyzing the data we checked for outliers and no effect size had a z value greater than 3.0. After investigating the effects of the treatments for the four outcomes (PTSS, depression, anxiety, and externalizing) we investigated moderating influences on these effect sizes, namely, type of treatment approach, parent involvement, and type of trauma. Although it would have been of interest to aggregate studies according to other moderator variables, particularly by specific treatment programs (e.g., TF-CBT), the limited number of RCTs allowed for aggregating studies only by whether the type of treatment approach evaluated was CBT or not CBT. Thus, all the CBT studies were aggregated and compared to aggregated treatment studies that used a treatment approach other than CBT (e.g., FT). It is worth noting that of the 12 CBTs, almost half ($n = 5$, 42%) were TF-CBT.

Likewise, the remaining two moderator variables (i.e., parent involvement and type of trauma) were each aggregated to include two levels of the variable. Hence, to investigate the effects of parent involvement, studies with parent involvement were aggregated and compared to aggregated treatment studies that involved the child only (i.e., child + parent studies vs. child only). To investigate the effects of type of trauma, studies that evaluated treatment for youth exposed to sexual abuse were aggregated and compared to aggregated treatment studies that evaluated treatment for youth exposed to other traumatic events (i.e., sexual abuse studies vs. other trauma studies).

Meta-Analytic Results

In Table 5, effect sizes for the four outcomes across all treatments compared to control conditions (i.e., waitlist and active controls combined) are presented.[3] Based on these analyses, the average treatment effect sizes were .43, .24, .09, and .22 for PTSS, depression, anxiety, and externalizing behavior problems, respectively. On average, treatments had positive, though modest, effects on all four outcomes, albeit minimally for anxiety. Moreover, there appear to be several moderating influences that determine the effectiveness of treatment for these outcomes. For example, for PTSS, the percent variance of the sampling error (%VarSE) was only 29.20%, suggesting that effectiveness is likely to be moderated by several other variables, some of which are explored next in a series of nested meta-analyses.

Before continuing to a discussion of moderators, it is important to comment on the differences between waitlist and active controls. Specifically, whereas the effect sizes of treatments compared to active controls were .33, .25, .09, and .18 for PTSS, depression, anxiety, and externalizing behavior problems, respectively, when treatments were compared to waitlist controls, the effect sizes were .34, .22, .01, and .37, respectively. These estimates highlight the generally similar effects of treatment on PTSS and depression whether compared to active controls or waitlists.

Moderating influences on effect sizes. The first moderator investigated was type of treatment (i.e., CBT vs. non-CBT). As noted, these two treatment categories were the only ones examined given the extant literature. As seen in Table 5, the effect sizes for CBT compared to control conditions (i.e., waitlist and active controls combined) ranged from .15 to .50 for the four outcomes (i.e., PTSS, depression, anxiety, and externalizing). For PTSS, the use of CBT had an effect size of .50, whereas non-CBT had less than half that effect ($d = .19$). The effect of CBT on depression was .29 compared to only .08 for non-CBT. For externalizing behavior problems, CBT also was more effective than non-CBT interventions (.24 vs. .02). These data suggest the superior value of using CBT compared to non-CBT interventions, as grouped here. Moreover, effect sizes were generally similar whether CBT was compared to waitlist or active control conditions with one exception: CBT had a larger effect on externalizing behavior problems than waitlists (.37), which was almost double the effect of active control conditions (.19). The small number of non-CBTs precluded investigation of non-CBTs compared to waitlist and active control conditions separately.

The second moderator investigated was type of trauma (i.e., sexual abuse vs. other types of trauma). This was the only type of trauma that could be examined, given the size of the extant literature. As shown in Table 5, effect sizes ranged from .10 to .46 for sexual abuse treatments and from .05 to .38 for treatments targeting other types of trauma. For PTSS as an outcome, sexual abuse treatments had an effect size of .46 whereas treatments for other types of traumas had an effect size of .38. For depression as an outcome, sexual abuse

[3]The 95% confidence interval is computed as $d \pm 1.96$ (res SD). If the lower bound of the interval is positive, it can be said that the treatment was effective in 95% of the situations (or conversely, that there is a significant effect). A res SD of zero suggests that the treatment effect was constant across situations and samples. The smaller the res SD, the more generalizable the treatment effects are across the samples. An alternative way to look at this is to consider the percentage of observed variance accounted for by sampling error. If all the observed variance is because of sampling error (i.e., 100% of the variance accounted for by sampling error), then the treatment effect is constant across samples and situations. The Fail-safe N was computed as $k((d/dc) - 1)$ where k is the number of effect sizes in that meta-analysis, d is the computed average effect size, dc is the critical value which was taken as .10 here. Q-stat was computed as k *Observed variance/sampling error variance and is a chi-square with k-1 degrees of freedom.

TABLE 5
Meta-Analyses: Pretreatment to Posttreatment Change for Overall, CBT, Non-CBT, and Sexual Abuse Treatments, Relative to Waitlist and Active Control Conditions Combined

Treatment	*K*	*N*	*d*	*SDd*	*SESD*	*Res Sd*	*%VarSE*	*95% CI*	*Fail Safe*	*Q-Stat*
Overall										
PTSS	25	1,717	.43	.3741	.2021	.3147	29.20	−.18 to 1.05	83	85.66*
Anxiety	18	1,238	.09	.2971	.1288	.2678	18.78	−.43 to .61	—	95.77*
Depression	20	1,328	.24	.2698	.0863	.2556	10.24	−.26 to .75	28	195.48*
Externalizing	19	1,126	.22	.2357	.0608	.2277	6.66	−.23 to .67	23	285.54*
CBT										
PTSS	16	1,320	.50	.3117	.1974	.2412	40.12	.03 to .98	64	39.89*
Anxiety	14	864	.15	.3374	.1523	.3011	20.38	−.44 to .74	7	68.71*
Depression	15	1,022	.29	.2424	.0818	.2282	11.39	−.16 to .74	29	131.72*
Externalizing	16	1,010	.24	.2299	.0620	.2214	7.27	−.19 to .68	22	220.00*
Non-CBT										
PTSS	9	397	.19	.4671	.2219	.4110	22.57	−.61 to .98	8	39.88*
Anxiety	4	374	−.05	.0515	.0357	.0371	48.13	−.12 to .03	—	8.32*
Depression	5	306	.08	.3021	.0668	.2947	4.89	−.50 to .66	–	102.26*
Externalizing	3	116	.02	.1890	.0495	.1824	6.84	−.33 to .38	–	43.74*
Sexual Abuse Interventions										
PTSS	18	1,052	.46	.2818	.2273	.1666	65.07	.14 to .79	65	27.67
Anxiety	14	907	.10	.2707	.1394	.2321	26.51	−.35 to .56	–	52.79*
Depression	12	643	.30	.2262	.0796	.2117	12.39	−.12 to .71	24	96.90*
Externalizing	13	716	.19	.2084	.0656	.1978	9.90	−.20 to .57	12	131.20*
Interventions for Other Types of Trauma										
PTSS	7	665	.38	.4873	.1581	.4610	10.52	−.52 to 1.28	20	66.50*
Anxiety	4	331	.05	.0538	.0937	.3445	6.88	−.62 to .73	—	1.32
Depression	8	685	.19	.2968	.0776	.2865	6.84	−.37 to .75	7	117.03*
Externalizing	6	410	.28	.2667	.0515	.2617	3.73	−.24 to .79	11	160.91*

Note: CBT = Cognitive Behavioral Therapy; *K* = number of independent samples that contributed an effect size; *N* = total sample size across the K samples; *d* = sample size weighted average effect size; *SDd* = sample size weighted standard deviation across the k effect sizes; *SESD* = sampling error associated with d; *Res Sd* = residual standard deviation; %VarSE = percentage of observed variance across the K effect sizes that can be attributed to sampling error; 95% CI = 95% confidence interval around the average effect size; Fail-safe N = number of samples with an average effect size of zero that should have been left out in our meta-analyses to lower the estimated effect size to .10; Q-Stat = variability among effect sizes (the Q-statistic is tested for significance at the .05 level; significant values suggest the presence of moderators); PTSS = posttraumatic stress symptoms.
*Indicates significance at the .05 level.

treatments had an effect size greater than that of treatments for other types of trauma (.30 vs. .19). For externalizing behavior problems, sexual abuse treatments were numerically less effective than treatments for other types of trauma (.19 vs. .28). It may be the case that sexually abused children experience greater problems with internalizing problems, whereas children exposed to family violence or physical abuse may experience greater problems with externalizing problems, which, in turn, warrant greater attention to the management of child behavior problems in those latter cases. The effect size estimates corresponding to treatment versus waitlist comparisons were similar to those obtained in analyses by the two types of trauma. The small number of sexual abuse treatments that used active control conditions precluded comparison by the two types of trauma.

The third moderator investigated was parent involvement in the child's treatment (i.e., child + parent studies vs. child only). These two categories relating to parent (non)involvement were the only ones examined, given the size of the extant literature. As seen in Table 6, the effect sizes for child-only treatments compared to control conditions (i.e., waitlist and active controls combined) ranged from –.01 to .44. For PTSS, child-only treatments had an effect size of .44 and child + parent involvement treatments had an effect size of .42. For depression as an outcome, child-only treatments had an effect size of .25; child + parent involvement treatments had a somewhat smaller effect ($d = .19$). The effects of child-only treatments on externalizing behavior problems yielded a d of .34 whereas the child + parent treatments yielded a d of .14. For anxiety as an outcome, child-only treatments had an effect of $-.01$ compared to .16 for child + parent treatments.

Thus, it appears that including parents in the child's treatment enhances treatment effects for symptoms of anxiety and depression, but involving parents does not seem to enhance the effects for reducing PTSS and externalizing behavior problems. However, when compared against active controls, child + parent treatments

TABLE 6
Meta-Analyses: Pretreatment to Posttreatment Change for Child-Only Treatments, and Child + Parent Treatments, Relative to Waitlist and Active Control Conditions Combined

Treatment	*K*	*N*	*d*	*SDd*	*SESD*	*Res Sd*	*%VarSE*	*95% CI*	*Fail Safe*	*Q-Stat*
Child-Only Treatment										
PTSS	12	542	.44	.5744	.2684	.5078	21.84	−.55 to 1.44	41	54.96*
Anxiety	7	447	−.01	.4420	.1017	.4301	5.29	−.86 to .83	—	132.22*
Depression	9	705	.25	.2494	.0772	.2372	9.57	−.21 to .72	14	93.93*
Externalizing	5	339	.34	.2565	.0493	.2518	3.69	−.15 to .84	12	135.35*
Child + Parent Treatment										
PTSS	11	1,097	.42	.3034	.1493	.2642	24.20	−.10 to .94	35	45.43*
Anxiety	9	703	.16	.1352	.1455	0	100	.01 to .01	5	7.77
Depression	9	544	.19	.2936	.0760	.2836	6.70	−.36 to .75	8	134.32*
Externalizing	12	714	.14	.1923	.0663	.1805	11.87	−.22 to .49	5	100.95*

Note: K = number of independent samples that contributed an effect size; N = total sample size across the K samples; d = sample size weighted average effect size; *SDd* = sample size weighted standard deviation across the k effect sizes; *SESD* = sampling error associated with d; *Res Sd* = the residual standard deviation; *%VarSE* = percentage of observed variance across the K effect sizes that can be attributed to sampling error; 95% CI = 95% confidence interval around the average effect size; Fail-safe N = number of samples with an average effect size of zero that should have been left out in our meta-analyses to lower the estimated effect size to .10; Q-Stat = variability among effect sizes (the Q-statistic is tested for significance at the .05 level; significant values suggest the presence of moderators; PTSS = posttraumatic stress symptoms.

had about the same effect or a smaller effect on PTSS, depression, anxiety, and externalizing behavior problems than child-only treatments (child + parent: .46, .22, .14, and.15; child only: .54, .23, .36, and .26). The small number of child + parent treatments compared against waitlist control conditions precluded analyses of the respective effects of parental involvement (i.e., child + parent studies) and no parental involvement (i.e., child-only studies) versus waitlists.

Although it was the case that all but two effect sizes had confidence intervals that included 0, suggesting that statistically significant treatment effects were found only for PTSS symptoms for CBT interventions ($d = .50$) and for sexual abuse interventions ($d = .46$), the limited number of studies may partially account for the lack of statistical significance. The larger effect size for PTSS may also be related to its more common use as a clinical inclusion criterion than the other outcomes described herein. Nevertheless, as previously summarized, treatment effect sizes showed that treatments produced positive, though modest, effects on the four outcomes examined (i.e., PTSS, depression, anxiety, and externalizing behavior problems). Results also showed that type of treatment received, type of trauma treated, and parent involvement in the child's treatment appeared to moderate treatment response. Briefly, CBT interventions were more efficacious in reducing PTSS, depression, and externalizing behavior problems than non-CBT interventions. Although positive effects in reducing anxiety symptoms were produced, relative to the other symptoms areas, the effects were minimal. Treatments for sexual abuse were more efficacious in reducing PTSS and depression than treatments for other types of trauma, although treatments for other types of trauma resulted in greater externalizing behavior problem reductions. Finally, parent involvement in the child's treatment had about the same effect or a smaller effect than child only treatments, when treatment effects were assessed against active control conditions. Further analyses of parent involvement as a moderator were not possible given the extant literature.

Specific Investigations of Predictors, Moderators, and Mediators of Treatment Outcome

Cohen and Mannarino (1996a, 2000) are the only studies to examine potential predictors of child trauma treatment outcome (i.e., Cohen & Mannarino, 1996b, 1998). In addition, Cohen and Mannarino (2000) examined potential predictors of Cohen and Mannarino's (1997) follow-up study of Cohen and Mannarino (1996b). In Cohen and Mannarino (1996a), the CBCL-I, CBCL-E, CBCL-Social Competence, CBCL-Total, CSBI, and parent-completed weekly written reports of frequency of their child's problem behaviors were used as the outcome variables, with all the remaining measures used as predictors as well as child age, race, and socioeconomic status. According to the authors, "multiple regression analyses were [then] performed on each outcome measure, with the mediating factors being the predictor variables" (Cohen & Mannarino, 1996a, p. 6).

The most consistent finding to emerge was that parental emotional reaction to the child's sexual abuse was a significant predictor of all the CBCL scales, as well as the parents' weekly behavior reports. Parental emotional reaction did not significantly predict, however, any of the outcome measures at either 6- or 12-month follow-up (Cohen & Mannarino, 1998). In explaining the latter finding, Cohen and Mannarino (1998) suggested that because parental distress was

reduced over time, the impact of parental distress on child outcome measures was likely to be reduced by follow-up. Although additional variables predicted treatment outcome as well as 6- and 12-month follow-up, the variables that were found to predict were different at each of these time points. Given that no other study has examined predictors of outcome in this area of research, Cohen and Mannarino's (1996a, 2000) exploratory approach to the analysis of predictors is understandable. As research progresses, a directed regression approach (Jaccard, Guilermo-Ramos, Johansson, & Bouris, 2006) in which a conceptual or theoretical model is ''directing'' the regression analyses (i.e., which variables are regressed onto which other variables) may prove useful. This endeavor would serve to put findings within a conceptual framework, thereby strengthening the theoretical underpinnings of child trauma treatment research.

More recently, Cohen and Mannarino (2000) examined predictors of treatment outcome in sexually abused youth (7–14 years) who participated in Cohen and Mannarino's RCT (1998) in which SAS-CBT was compared to NST. The SAS-CBT data and NST data were combined in the analyses because, ''the *n*, especially for the NST group, was [also] too small to conduct meaningful analyses of these mediating factors within each treatment group'' (Cohen & Mannarino, 2000, p. 989). Given that of interest in this article are possible predictors of SAS-CBT outcome, not the NST comparison control condition, the reader is referred to Cohen and Mannarino (2000) for a summary of the findings.

In addition to the two studies that have examined predictors of treatment outcome, one investigation (Smith et al., 2007, as previously summarized) examined the potential mediating role of youths' cognitive misappraisals of the traumatic event (assessed using the Children's Post Traumatic Cognitions Inventory; Meiser-Stedman, 2003). Results indicated that changes in cognitive misappraisals mediated changes in PTSS (assessed using the Clinician Administered PTSD Scale for Children and Adolescents; Nader, Kreigler, Blake, & Pynoos, 1994). Although the work of Smith et al. (2007) is an important initial effort in the evaluation of mediators of youth PTSS treatment response, the mediator, cognitive misappraisal of the traumatic event, was assessed concurrently with the outcome (i.e., PTSS). This state of affairs makes it quite difficult to construe the putative mediator as actually explaining change in outcome (see Weersing & Weisz, 2002). Future research should conduct more time intensive assessments of the putative mediator(s) during the period of active intervention, prior to collecting the outcome data.

To date, no investigation has reported analyses that evaluated variables as moderators of treatment outcome. However, given the meta-analytic findings that showed that including parents in the child's treatment enhances treatment effects in terms of reducing child anxiety and depressive symptoms, but not PTSS and externalizing behavior, investigations designed specifically to evaluate potential moderators of child-only treatments, child + parent treatments, and both, would seem to represent high priority areas for future study. Future research should also examine the possibility that variables such as dosage (number of treatment sessions) and participants' age, both which varied across studies, could moderate treatment effects. As mentioned, these and other potential moderator variables were not examined in this article because the small number of treatment articles did not allow for aggregating studies according to these variables.

Generalizability and Representativeness

Are the positive findings obtained in the studies summarized in this article generalizable to ''real-world'' community clinics? The good news is that in contrast to other areas covered in this special issue, 11 of the 21 treatment studies on youths' reactions to traumatic events have been conducted in community or hospital settings. In addition, only 6 of the 21 studies used a waitlist control condition, with the remaining 15 using active, alternative comparison conditions (e.g., NST, Support Group Therapy). Moreover, 10 of these studies used therapists who already were working in the community or hospital setting. In addition, the studies reported few participant exclusionary criteria: developmental delay/mental retardation, participant psychosis, and participant drug abuse were the most common. Some studies also excluded participants who did not meet specific language requirements or children who were participating in concurrent treatments elsewhere. Four of the 11 studies treating sexually abused children excluded children who were likely to have continued contact with their perpetrator during treatment.

With respect to the representativeness of the research samples used, the child and adolescent trauma treatment area also appears to be further ahead of most other youth psychosocial treatment studies (see Weisz, Doss, & Hawley, 2005) in that ethnic minority populations composed more than 40% of the samples in 13 of the 21 studies (e.g., Ahrens & Rexford, 2002; Celano et al., 1996; Chemtob et al., 2002). Unfortunately, probably because of small sample size, these studies did not test for differential results by ethnic minority group identification. Consequently, more work is needed to determine whether treatment components and/or implementation strategies need to be modified to meet the specific needs of ethnic minority youth and their families.

Furthermore, the child and adolescent trauma treatment area also appears to be ahead of most other youth psychosocial treatment studies in how age has typically been handled. That is, most studies tended to employ samples of a relatively narrower age range including preschoolers (e.g., Cohen & Mannarino, 1996b), early childhood through middle childhood (e.g., Chemtob et al., 2002), middle childhood through early adolescence (e.g., Stein et al., 2003), and adolescence only (e.g., Celano et al., 1996), although some studies did employ a relatively wide age range (e.g., Berliner & Saunders, 1996: 4–13 years; King et al., 2000: 5–17 years). The use of narrower age ranges allows for increased confidence for the positive treatment effects for that given age group. Age may be a potential moderator in those studies with a wide age range, but the limited sample size of most of these studies renders it impossible to fully evaluate the potential moderating role of age. Finally, although investigators note that they adapted the treatment materials to ensure the treatment was delivered in a developmentally sensitive manner, specific details of the adaptations are rarely indicated (e.g., Chemtob et al., 2002; Cohen & Mannarino, 1996b; Kataoka et al., 2003).

The studies in this area fall short when it comes to allowing for generalization of findings over time. Only 8 of the 21 studies (38%) reported follow-ups within the same pre-post treatment study; follow-up data were reported for an additional two studies in subsequent articles (i.e., Cohen & Mannarino, 1997; Deblinger et al., 1999). Moreover, when follow-up data have been reported, the time interval between posttreatment and follow-up has been brief. Specifically, 3 articles reported 3-month follow-up (i.e., Deblinger et al., 2001; King et al., 2000; Kolko, 1996), 4 articles reported 6-month follow-up (i.e., Chemtob et al., 2002; Cohen, Mannarino, & Knudsen, 2005; Smith et al., 2007; Stein et al., 2003), and only 3 articles reported a follow-up interval of 1 year (i.e., Berliner & Saunders, 1996; Cohen et al., 2005; Kolko, 1996). Only Berliner and Saunders reported a follow-up interval as long as 2 years.

The studies fall short as well when it comes to the generalizability of the findings across outcome measures. This state of affairs is largely because of the wide array of outcomes that have been assessed across studies. However, as noted, PTSS, depression, and externalizing behavior problems have been the most commonly assessed outcomes in the current literature and, as this article has shown, existing treatments appear to be most effective in reducing these symptoms of traumatic exposure among youth. Thus, to grow the evidence base in this youth psychosocial treatment research area, it would seem important to continue to include these variables as outcomes in future trials. Still, we recognize that the ability to draw conclusions about treatment effects on other outcomes (e.g., fear) is limited because of the relatively low frequency with which other outcomes have been assessed across studies. We further recognize that children's and adolescents' reactions to traumatic events can be broad and complex and that for different types of traumas, some reactions may be more relevant to assess than others (e.g., inappropriate sexual behavior following sexual abuse). Consequently, it is suggested that investigators use this article's findings as a starting point in their selection and assessment of outcomes, understanding that other outcomes, not sufficiently studied in research, may also show sensitivity to treatment change.

Of further note, when it comes to assessing those variables that were found to be most sensitive to change (i.e., PTSS, depression, and externalizing behavior problems), there are many measures available to assess each of these outcomes. However, in the 21 studies summarized in this article, there was relatively high consistency in the specific measure used to assess depression and externalizing problem. For example, the CDI was used to assess depression in 92% of the 12 studies, and all 11 studies that assessed externalizing behavior problems used either the CBCL-E or the Youth Self-Report Form (Achenbach, 1991). Given the high usage of the CDI and the parent and youth versions of the Achenbach scales, these measures would seem to be reasonable selections for assessing depression and externalizing problems, respectively. In contrast, when it comes to assessing PTSS, the specific measure used has varied considerably across studies. Specifically, of the 14 studies that assessed PTSS, the K-SADS was used in only 29% of the studies, followed by the Impact of Events Scale in 21%. Our meta-analyses also could not conduct more specific analyses of how effects varied by specific measure of PTSS because of the limited number of studies that used each measure. In light of these findings, although PTSS appears to be important to assess in this area of research, we would be hard-pressed to recommend a specific measure that should clearly be used.

Summary and Best Practices Recommendations

Summary

TF-CBT met the well-established criteria; school-based group CBT met criteria for probably efficacious, and several other treatments met criteria for possibly efficacious (see Table 3). All the child and adolescent trauma treatment studies included in the meta-analysis in this article were either Type 1 or Type 2 studies along Nathan and Gorman's (2002) continuum of methodological rigor. With respect to the meta-analyses, although statistically significant treatment effects were found only for PTSS symptoms for CBT interventions ($d = .50$) and

for sexual abuse interventions ($d = .46$), and although these effect sizes were in the medium range, the trauma field has, in our view, made significant gains in knowledge development in the past decade and reasonable conclusions can be drawn from the studies conducted to date. Specifically, the results provide further support for the efficacy of CBTs for reducing trauma reactions in youth compared to non-CBTs (based on combining effect sizes for individual and group treatments for the meta-analyses due to limited sample size). In addition, CBTs were more efficacious in reducing PTSS, depression, anxiety, and externalizing behavior problems than non-CBTs. CBT for sexual abuse was more effective in reducing PTSS and depressive symptoms than for other types of trauma, although treatments for other types of trauma resulted in greater externalizing behavior problem reductions. Of further note is that low effect size findings may be a function of variability in clinical severity across studies or other factors.

From a clinical practice perspective, one conclusion is that when working with youth who have been exposed to traumatic events, the treatment with the most evidence for efficacy to date involves CBT—specifically, CBT as described and implemented in the treatment manuals of those studies summarized in this article and identified as meeting Chambless et al.'s (1996), and Chambless and Hollon's (1998) criteria for well-established and probably efficacious treatments. This finding can be considered both heartening and validating of what is starting to "take off" in real-world practice, in that the majority of practices currently being disseminated broadly within the youth trauma field and being embraced by trauma-informed community practice sites for adoption and implementation are trauma-specific CBTs and/or those that include cognitive and behavioral strategies as part of their trauma-specific core components (Amaya-Jackson & DeRosa, 2007; National Child Traumatic Stress Network, 2007).

Within the research studies described in this article, although different investigators have called their components by different names, in looking across the well-established treatments there is considerable commonality. Trauma-specific core components that have emerged in the practices considered well-established, probably efficacious, and possibly efficacious include components highlighted for many years in the child trauma literature. These core components include psychoeducation, the management of anxiety, trauma and loss reminders, trauma narration and organization, cognitive and affective labeling and processing, problem solving regarding safety and relationships, parent skill-building and behavioral management, emotional regulation, and supporting youth to resume negatively impacted developmental competencies (Amaya-Jackson & DeRosa, 2007). In considering the findings of this article, we duly note the opportunity to celebrate the field's success in now having a more solid trauma-specific evidence base. Nevertheless, the extent to which these study findings generalize to the complex presentations in children who are affected by multiple traumas is not entirely clear, although applied practice strategies specific to this severely affected population from the current evidence are emphasized in large-scale efforts such as the National Child Traumatic Stress Network. In addition, dissemination of study manuals and protocols, often accompanied by training in adoption and implementation strategies, is gaining momentum via a number of federal and state initiatives (e.g., Agosti et al., 2007).

One implication of this article is that the field is now in a better position to discriminate which approaches are effective for a given traumatic clinical outcome because clearer evidence now exists regarding the types of improvements that have been found across a range of specific outcomes. Thus, clinicians can be directed to carefully consider the use of a given intervention based on current evidence that reflects its ability to change a given outcome, such as posttraumatic stress. Such information may contribute to more optimal treatment selection and perhaps more effective intervention, but whether clinicians alter their practice awaits further empirical evaluation.

A second implication of these overall findings is the recognition that traumatic experiences are both psychologically relevant and may require the judicious use of contemporary interventions that incorporate common individual and family techniques, especially CBT methods. Children and youth who are traumatized may exhibit clinically troublesome or challenging symptoms and disorders that may persist into young adulthood, precipitating other adult sequelae. The suggestion that early intervention is efficacious may offer this population exposure to a widely available set of clinical resources that can provide relief from suffering and impairment.

Directions for Future Research

In this final section, we list some of the most critical issues that we believe deserve attention in future research. Some of these are not necessarily exclusively applicable to the area of children's trauma (see Silverman, Pina, & Viswesvaran, 2008).

1. *Improving measurement*. As noted, the use of different outcome measures renders it difficult to draw firm conclusions from the current literature about how the various treatments affect any one particular outcome, because the outcome measures have been so diverse.

Although using diverse outcome measures can help inform issues that relate to generalizability, narrowing down the outcomes to at least two or three standard ones would seem helpful to determine the efficacy of these different treatments when it comes to this "core." This practice would further shed light on whether, or how, different traumatic experiences influence children's outcomes. As previously noted, we recommend as a starting point that PTSS, depression, and externalizing behavior problems be assessed, primarily because these outcomes are currently the most assessed and because these have consistently yielded positive change from pre- to posttreatment. In addition to the value of a core set of outcomes measures, exploration of the utility of functional outcomes (e.g., social competence, school achievement, legal involvement) is encouraged.

2. *Enhancing statistical power*. To determine whether the studies we included in this review had sufficient power to detect small, medium, and large effect sizes (using Cohen's *d* as the measure of effect size), we conducted traditional power analyses for each study. Our analyses of power showed no study had power above .80 for detecting a small effect when comparing two active treatments (these are difficult to detect when two treatments are likely to produce positive changes). One study (i.e., Kataoka et al., 2003) had power above .80 for detecting a medium effect. However, five studies (i.e., Berliner & Saunders, 1996, Cohen & Mannarino, 1996b; Kataoka et al., 2003, Stein et al., 2003, Trowell et al., 2002) had adequate sample sizes offering sufficient power ($P = .80$) to detect a large effect size, which is easier to detect when comparing a treatment to a waitlist control. Because most of the studies that compared two active treatments did not have sufficient power to detect a small or medium effect size, the relative efficacy of these treatments needs to be considered within this context.

3. *Handling treatment noncompleters, missing data, and outliers*. Of the 21 studies evaluated in this article, only 3 (i.e., Cohen et al., 2005; King et al., 2000; Trowell et al., 2002) analyzed the data for all participants who had been randomized to conditions but who did not complete the full treatment program (i.e., performed intent-to-treat analyses). Evaluating treatment outcome only for those participants who fully completed the treatment is highly likely to lead to a more positive picture of treatment outcome than it would be if treatment noncompleters are included in the analyses; it also violates the randomization that forms the basis of randomized clinical trial.

There has been some related research examining factors that influence treatment noncompletion in child and adolescent trauma treatment studies. King et al. (2000) reported that half ($n = 4$) of noncompleters did not provide a reason, whereas the others cited lost interest in the treatment. In Kolko (1996), conflicting schedule was the most often reported reason for not completing treatment, followed by partner hostility, conflict with outside family member, disinterest, and drug/alcohol problem. Among these studies reviewed in this article, findings generally revealed no significant differences between treatment completers and noncompleters on demographic and psychosocial variables. Researchers are encouraged to continue accumulating data on factors relating to treatment non-completion in children exposed to traumatic events.

In addition, the child and adolescent trauma literature (and again, not necessarily specific to this area) has paid little or no attention to issues relating to the handling of missing data, outliers, and even whether assumptions of normality are met. All of these factors can substantially alter studies' findings and thus the subsequent conclusions drawn. Only Cohen et al. (2004) reported the use of a statistical strategy (i.e., multiple imputations) to address missing data.

4. *Conducting follow-up assessments*. It is unclear to us why this area of child and adolescent treatment research seems to be relatively less consistent than other areas when it comes to the systematic gathering and reporting of follow-up results. The need to have these data would seem particularly critical given the accumulating evidence that traumatic reactions dissipate for a proportion of children exposed to some types of traumatic events (e.g., natural disasters; La Greca, Silverman, Vernberg, & Prinstein, 1996). Although there are thorny ethical issues that would be involved in conducting a study in which a subsample of children were withheld treatment and followed over time while another subsample received treatment and were also followed over time, it would seem important to launch some investigations of this type to help obtain a clearer picture of both the short-term and long-term benefits of providing treatment to children who have been exposed to traumatic events versus not providing such treatment to children. In light of the many hurdles and obstacles that typically face investigators as they attempt to launch treatment studies following children's exposure to some types of traumatic events (La Greca & Silverman, 1996), it is possible that obtaining these types of data can be accomplished within the constraints of many quasi-experimental designs without compromising ethical principles.

5. *Tailoring treatment for minority representation*. As noted, minority representation is relatively higher in this area than in many other areas of child and adolescent treatment research. However, lacking in these studies are detailed explanations by investigators regarding how they adapted/modified their treatment program to ensure the treatment was sensitively attuned to the cultural context of the minority group, as well as more

attractive to that group than nonculturally attuned treatments. Also previously noted, the inclusion of heterogeneous ethnic samples in treatments significantly decreased the effect of the treatment. Unfortunately, mainly because of restricted sample sizes none of the studies summarized for this article compared effects sizes by ethnicity. It is recommended that future studies be designed with sufficient statistical power to fully evaluate the role of ethnicity.

6. *Evaluating treatment integrity*. A necessary condition for making valid conclusions on the basis of the results of treatment outcome research is evidence that the treatment procedures were administered appropriately (Kazdin, 1994). It is striking that in this area of child and adolescent psychosocial treatment research, only 8 of the 21 studies conducted formal checks for treatment integrity. In only 7 studies (38%) were treatment integrity and distinctiveness assessed by means of judges' ratings of the content of videotaped therapy sessions. It is therefore unclear, in the majority of the studies conducted in this area, whether the experimental and comparison treatments were delivered in a standardized fashion and therefore whether the distinctive features of each treatment were *not* included in the other conditions. It is possible that key ingredients of therapeutic change (e.g., exposure narratives) may have been delivered in some of the comparison control conditions (e.g., CCT), which could help to explain why positive change was observed on some measures in some of these comparison conditions.

7. *Predictor, moderator, and mediator analyses*. It seems critical, if the field is to move forward, that future studies make specific hypotheses about key mediators of change and begin to measure these mediators using more time-sensitive assessments and more complex statistical procedures (Kraemer, Stice, Kazdin, Offord, & Kupfer, 2001). As also noted in the article, much work is needed as well on investigating predictors and moderators of treatment outcome. Overall, this type of work is critical to answer why treatments work and for whom. Such work also would help lead to improved transportability of evidence-based treatments because, as knowledge progresses about what is most responsible for change, and for whom, treatments can become more efficiently tailored to meet the needs of specific groups who present to mental health clinics. For example, a topic worthy of further examination is the role of parental involvement in treatment in relation to child improvement. Given that some evidence suggests that child treatment is more effective for internalizing symptoms and parent treatment for externalizing symptoms in child sexual abuse (Deblinger et al., 1996), it would be of interest to learn whether the characteristics of the parent are associated with consistent changes in these outcomes.

8. *Dismantling strategies*. Additional issues warranting future research entail investigating specific versus nonspecific effects of individual treatment components. Dismantling frameworks can be useful in determining the relative efficacy of specific child treatment components (e.g., trauma narratives) for a given outcome (e.g., PTSS, depression). They are therefore capable of shedding light on which components are most critical for inclusion in treatment "packages." A multisite study is currently underway to evaluate critical components of TF-CBT. The developers of this model are comparing TF-CBT with versus without the trauma narrative and cognitive processing (TN + CP) components in 240 young (4–11 years) sexually abused children. An additional focus of the study is the impact of varying "dosages" or length of treatment by comparing differential outcomes of providing 8 sessions versus 16 sessions of treatment. (J.A. Cohen, personal communication, June 21, 2007).

9. *Replication and adaptation research*. For those treatments with smaller effect sizes or in lower categories of evidence-based classification schemes, careful thought should be applied conceptually and analytically regarding what research steps should happen next. Proponents of those treatments that are well grounded and designated to meet the needs of select clinical target groups for which there may be a gap in the current state of the science should seek opportunities that will take them to the next level—whether through replications, honing of design and content, and/or additional research. Many promising practices grow out of community-based feedback to develop protocols that meet the needs of specific target populations and settings not yet included in the evidence base. Instilling the need for these practices to establish an evidence base before widespread dissemination seems prudent. As the most evidence-based treatments are disseminated broadly across the country, careful thought and further scrutiny should be directed toward them. When these treatments are applied to novel populations or service settings where the evidence base is more limited, additional monitoring of findings and scientific evaluation along the way is strongly encouraged.

CONCLUDING COMMENTS

In conclusion, this review and meta-analysis provides modest support for the treatment of child and adolescent trauma and its common sequelae. The strongest empirical evidence was found for CBT-related interventions and for outcomes involving PTSD, which were most often used in studies targeting child sexual abuse. At the same time, several methodological limitations were noted in terms of study power, treatment integrity

or fidelity monitoring, follow-up length, and analytical strategies. More rigorous and large-scale interventions that examine treatment moderators and mediators, as well as predictors of outcome, are needed. These developments are especially critical to facilitate important translational work at the interface between efficacy and effectiveness, which involve the evaluation of evidence-based treatments being applied by practitioners working in routine community settings (see Hoagwood et al., 2007). Ultimately, such demonstrations must be conducted to determine whether the treatments described herein are found to be efficacious and cost-effective when applied in everyday practice.

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