

Treatment for Children With Posttraumatic Stress Disorder: Current Status and Future Directions

Kenneth J. Ruggiero, Tracy L. Morris, and Joseph R. Scotti
West Virginia University

Although the treatment-efficacy literature for adults with posttraumatic stress disorder (PTSD) has advanced considerably with the publication of several methodologically rigorous contributions during the past decade, the child-focused PTSD literature has yet to extend beyond case illustrations and open trials. Central to this article is a review of the treatment-outcome literature for children with PTSD. Because few treatment studies have targeted trauma-exposed children relative to their adult counterparts, results of some methodologically rigorous investigations with adults are also cited in this review. From these investigations and from the available treatment-outcome data with children, we derive suggestions for future research.

Key words: posttraumatic stress disorder, treatment efficacy, children, potentially traumatic events.
[Clin Psychol Sci Prac 8:210–227, 2001]

Over the past two decades, the empirical literature has reflected an increasing interest in the relation between trauma and survivor psychopathology (Fairbank, Schlinger, Caddell, & Woods, 1993). Yet, as researchers continue to examine this relation with increased precision and improved methodology, the treatment-outcome literature remains in its infancy. For instance, several major therapeutic techniques (e.g., systematic desensitization, graduated exposure) commonly used by clinicians to mitigate symptoms of posttraumatic stress disorder (PTSD) have not undergone methodologically rigorous assess-

ments of their efficacy. Further, although many therapeutic techniques purportedly are applicable to various treatment-seeking, trauma-exposed populations, the literature is devoid of well-controlled group-design efficacy research with child participants and with adult survivors of traumatic events other than rape or combat. This paucity of treatment-efficacy data is alarming, particularly when one considers the pervasiveness of conceptual disunity among mental health professionals regarding the treatment of various forms of psychopathology (Levis, 1995). Until a greater number of well-controlled treatment evaluations become available in the literature, decisions pertaining to the selection and implementation of treatment for PTSD likely will be influenced more by clinician preferences and general training background (both of which vary widely) than by empirical evidence.

Until the late 1980s, treatment-outcome investigations with trauma-exposed adults were limited to case illustrations and open trials. Recently, results of several randomized clinical trials for adult survivors of rape- and combat-related events have become available in the literature (see Foa & Meadows, 1997, 1998; Keane, 1998; Solomon, Gerrity, & Muff, 1992). Research of this nature has enabled a greater understanding of the utility of various psychosocial interventions for adults with PTSD. However, these important studies have told us little about treatment for children with PTSD. Unfortunately, the child-specific treatment-outcome literature has yet to advance beyond case illustrations (see Saigh, 1992), with few exceptions (e.g., Deblinger, McLeer, & Henry, 1990).

Kazdin (1997) has cited several global limitations of the child and adolescent treatment literature and highlighted seven proposed steps toward developing effective treatment protocols: These steps include: (a) conceptualization of the disorder or problem area. (b) empirical examina-

Address correspondence to Tracy L. Morris, Department of Psychology, P.O. Box 6040, West Virginia University, Morgantown, WV 26506–6040. Electronic mail may be sent to tmorris2@wvu.edu.

tion of this conceptualization, (c) treatment formulation, (d) operational description of treatment procedures, (e) treatment-outcome investigations, (f) evaluation of specific treatment components, and (g) identification of patient characteristics (e.g., demographics) that predict treatment success or failure. The literature examining PTSD with adults indicates significant advances in the initial five steps, and preliminary advances in the evaluation of specific treatment components (e.g., relaxation techniques, cognitive restructuring). The literature examining PTSD with trauma-exposed children, in contrast, reflects significant research compatible with the initial two steps, considerable disunity with regard to treatment formulation, and minimal progress in the operationalization of intervention procedures and availability of treatment-outcome research.

This article includes a review of the treatment-outcome literature for children with PTSD with an emphasis on the need for future scientific evaluation of the interventions reviewed. Due to the underrepresentation of trauma-exposed children in treatment-outcome research relative to their adult counterparts, we reference findings derived from some methodologically rigorous investigations with adults in this review. Also, it should be noted that we have excluded from this review a limited number of clinical trials with trauma-exposed children (e.g., Cohen & Mannarino, 1996b, 1997). Such studies were excluded only when they did not include PTSD-related assessment and results and thus were not directly in line with the goals of the present review. However, we do draw from these studies for information that is pertinent to discussing developmental issues and child-specific treatment procedures.

TRAUMA AND PTSD

The *DSM-IV* (American Psychiatric Association [APA], 1994) defines traumatic events as experiences that involve "actual or threatened death or serious injury, or a threat to the physical integrity of self or others" (p. 427). Additionally, the event(s) must evoke intense "fear," "helplessness," or "horror"; trauma-exposed children instead may exhibit disorganized or agitated behavior. PTSD is a diagnostic label used to classify trauma-exposed individuals who endorse at least: (a) one trauma-related reexperiencing symptom (e.g., flashbacks), (b) three trauma-relevant forms of avoidant behavior (e.g., avoidance of activities associated with the event), and (c) two symptoms

of increased arousal (e.g., sleep difficulties) that were absent before the event(s). These PTSD criteria are identical for adults and children, with few exceptions (APA, 1994). Such exceptions are restricted to the domain of reexperiencing symptoms; for instance, nightmares reported by children are not required to include recognizable content. Researchers also have reported other predominantly child-specific responses to potentially traumatic events, such as a regression of previously learned skills, withdrawn behavior, and separation difficulties (see Lyons, 1987; McNally, 1991; Perrin, Smith, & Yule, 2000; Scheeringa, Zeanah, Drell, & Larrieu, 1995; Vogel & Ver-nberg, 1993). However, these symptoms currently are not included among the diagnostic criteria for PTSD.

Although the *DSM-IV* offers the general criteria by which an event is labeled "traumatic," researchers typically distinguish between various topographically distinct, potentially traumatic events in the literature. For instance, although rape and combat exposure both are considered potentially traumatic events, individuals exposed to such events rarely are included within the same study sample. Similarly, studies in the child literature often separately examine behavioral correlates of child sexual abuse, child physical abuse, and motor vehicle accidents. However, it should be noted that all of these topographically distinct events are similar in that they may be labeled traumatic if event characteristics coincide with the *DSM-IV* definition. Thus, for instance, although child sexual abuse may involve many characteristics (e.g., threat, "secretive" interactions with perpetrator) that are not typical of other potentially traumatic events, sexual abuse typically is labeled traumatic and, like other potentially traumatic events, often predicts fairly high levels of PTSD-relevant childhood symptomatology (see, e.g., McLeer et al., 1998).

Over the past two decades, there has been a proliferation of research examining correlates of various potentially traumatic experiences, with researchers consistently reporting increased psychopathology among trauma-exposed individuals relative to non-trauma-exposed comparisons (see Keane, Fisher, Krinsley, & Niles, 1994; Pfefferbaum, 1997). Although the relation between trauma and survivor functioning has been examined most comprehensively with adult survivors of combat-related events (e.g., Vietnam veterans: Kulka et al., 1990) and rape (e.g., Rothbaum, Foa, Riggs, Murdock, & Walsh, 1992), researchers have identified several similarities in symptomatology between these populations and survivors of other

potentially traumatic experiences. These experiences include, but are not limited to: child sexual abuse (e.g., McLéer et al., 1998), child physical abuse (Wolfe & McEachran, 1997), domestic violence (e.g., Astin, Ogland-Hand, Coleman, & Foy, 1995), accidental injury (e.g., burns, motor vehicle accidents; Scotti, Beach, Northrop, Rode, & Forsyth, 1995), war-related events (e.g., Nader, Pynoos, Fairbanks, Al-Ajeel, & Al-Asfour, 1993), natural disasters (e.g., Pynoos et al., 1993), and technological disasters (Smith, North, McCool, & Shea, 1990). Additionally, witnesses to severe violent events (e.g., domestic violence, suicide, homicide) tend to report increased symptomatology relative to nonwitnesses (e.g., Nader, Pynoos, Fairbanks, & Frederick, 1990; Pynoos & Nader, 1990).

For children and adults, forms of psychopathology that appear to correlate most highly with potentially traumatic experiences include symptoms of depression, anxiety, and PTSD (Foa & Rothbaum, 1998; Yule, 1998). Investigations with trauma-exposed individuals also have revealed increased instances of aggressive behavior (e.g., Stern, Lynch, Oates, O'Toole, & Cooney, 1995), increased attention problems (e.g., McLeer & Ruggiero, 2000), and deficits in academic or vocational performance (e.g., Rust & Troupe, 1991) relative to non-trauma-exposed controls. From these findings, it is evident that problems in posttrauma functioning among children and adults may manifest on a variety of domains. PTSD-related symptoms, however, appear more prevalent than other forms of psychopathology among both adult and child survivors of traumatic events (e.g., Kiser, Heston, Millsap, & Pruitt, 1991; McLeer, Deblinger, Atkins, Foa, & Ralphe, 1988; McLeer et al., 1998). Thus, the need for empirically supported interventions for PTSD is profound. In this light, we review the current status of the PTSD treatment literature following a brief review of relevant assessment instruments.

Assessment

A review of the many instruments designed to assess trauma and PTSD is beyond the scope of this article. Extensive reviews of these instruments appear elsewhere in the literature, both for adults (see Foa & Rothbaum, 1998; Shear et al., 2000) and for children exposed to various potentially traumatic events (see March, 1999; Nader, 1997). In particular, although relatively few of the existing assessment instruments for children with PTSD-related

symptoms have encountered sufficient challenges to validity (Ruggiero & McLeer, 2000; Weathers, Keane, King, & King, 1997), psychometrically supported instruments are available for this population. Below we briefly review some of these instruments.

Nader (1997) reviewed several instruments for children that target various classes of responding (e.g., responses associated with PTSD, depression, disruptive behavior) to potentially traumatic events. Among these instruments were several that are relatively brief and directly PTSD related, including the Children's Post-traumatic Stress Reaction Index (CPTS-RI; Frederick, Pynoos, & Nader, 1992), the Child's Reaction to Traumatic Events Scale (CRTES; Jones, 1994), the Trauma Symptom Checklist for Children (TSCC; Briere, 1996), the Clinician-Administered PTSD Scale for Children (CAPS-C; Nader et al., 1996), the PTSD subscale of the Diagnostic Interview for Children and Adolescents-Revised (DICA-R; Reich, Shayka, & Taibleson, 1991), and the PTSD module of the NIMH (National Institute of Mental Health) Diagnostic Interview Schedule for Children Version IV (NIMH DISC-IV; Shaffer, Fisher, Lucas, & Dulcan, 2000). Most of these instruments were based largely on *DSM-IV* diagnostic criteria for PTSD, and some include assessment of additional trauma-relevant responses that are not directly associated with PTSD. Although some of these instruments have not yet undergone extensive psychometric evaluation (e.g., CAPS-C), and others do not assess the full construct of PTSD (e.g., CRTES, a 15-item revision of the Impact of Events Scale for Children [Jones, 1992]), these instruments generally appear to be psychometrically satisfactory and useful in research and clinical settings (see Nader, 1997, for a detailed overview of each of these measures). Additionally, these instruments do not refer exclusively to a specific potentially traumatic event and therefore may be administered to children exposed to a wide range of stressful life experiences. However, it should be noted that many of these instruments are not suitable for children younger than 8 years. Although some measures have been designed specifically for young children (e.g., Briere et al., 2000; Richters, Martinez, & Valla, 1990), available psychometric data preclude even preliminary observations.

March (1999) conducted a similar review of instruments that includes several of the measures reviewed by Nader (1997), such as PTSD-RI and CAPS-C. In addition, March called attention to other instruments for

which promising preliminary psychometric support has been established, such as the Kiddie-Post-Traumatic Symptomatology scale (K-PTS; March & Amaya-Jackson, 1999, as cited in March, 1999) and the Children's PTSD Inventory (Saigh, 1997; see Saigh et al., 2000). The Child and Adolescent Psychiatric Assessment (CAPA; Angold & Costello, 1995) was not reviewed by either March or Nader, but psychometric evaluations of CAPA have yielded promising results (Costello, Angold, March, & Fairbank, 1998). Costello and colleagues additionally emphasized the importance of using psychometrically established instruments or subscales that facilitate labeling participant-endorsed events "traumatic" or "nontraumatic" according to *DSM-IV* criteria. "Life events" scales or checklists are included within several of the PTSD-relevant instruments cited above, including the CAPA.

In general, treatment-outcome researchers should review carefully the psychometric properties of available instruments before selecting measures from which estimates of treatment effectiveness may be derived. Similarly, readers of the treatment-outcome literature should be cautious when interpreting findings derived with unstandardized interviews and instruments that have not endured thorough psychometric evaluations. Of additional importance, assessments of treatment effectiveness should include instruments that are sensitive to treatment gains (see Shear et al., 2000). Sensitive instruments are recommended because inaccurate estimations of treatment effectiveness are likely when researchers use psychometrically adequate measures with poor sensitivity to changes in symptomatology. Finally, as stated earlier, children may emit a wide range of responses to potentially traumatic events that are not directly PTSD related. For this reason, it is important to use broad-spectrum instruments (e.g., TSCC) or supplement PTSD-related assessment with administration of instruments that target other classes of responding (e.g., Child Behavior Checklist, Children's Depression Inventory). Supplementary assessment instruments are not reviewed here because we are restricting our focus to issues directly pertinent to the assessment and treatment of PTSD-related responding.

TREATMENT APPROACHES WITH TRAUMA-EXPOSED INDIVIDUALS

In this section, we describe results of studies that examined the efficacy of various PTSD-related treatments. For efficacy research with adult participants, we cite studies

when they include methodologies consistent with many of the gold standards for treatment-outcome research described by Foa and Meadows (1997). These gold standards include the use of (a) clearly defined criteria for inclusion and exclusion of participants; (b) psychometrically sound assessment instruments; (c) assessors of psychopathology who are well trained and blind to participant group membership; (d) replicable, specific treatment packages; (e) randomized assignment to treatment conditions; and (f) assessment of treatment adherence. Treatment-efficacy studies with child survivors of traumatic events also are reviewed, and procedural dissimilarities in the application of treatment with children and adults are noted. Due to the virtual lack of methodologically rigorous research with child participants, adherence to high methodological standards was not required for inclusion in this review. For a more complete overview of research examining psychosocial treatments for *adults* with PTSD, see Foa and Meadows (1997, 1998).

Psychodynamic

Psychodynamic approaches to the treatment of PTSD typically emphasize a therapeutic alliance between the patient and clinician that is facilitated by the clinician's empathic response to reported feelings of helplessness, shame, and vulnerability (Marmar, Foy, Kagan, & Pynoos, 1994). As improvements in patient functioning (e.g., enhanced self-cohesion, use of more appropriate defense and coping strategies) are recognized by the clinician, the focus of treatment shifts toward identifying the meanings of the traumatic event and trauma-related symptoms (Marmar & Freeman, 1988; Shalev, Bonne, & Eth, 1996). Only one randomized clinical trial has targeted psychodynamic treatment for adults with PTSD: some support for efficacy was established (Brom, Kleber, & Defares, 1989).

The effectiveness of psychodynamic treatment for children with PTSD is unclear because research with children largely has been limited to case illustrations (e.g., McElroy & McElroy, 1989), and there are significant dissimilarities in treatment procedures with children and adults that preclude inferences regarding the generalizability of treatment-efficacy data from adults to children. For instance, play therapy is often used to accommodate children who are developmentally incapable of benefiting from clinician-directed abstract symbolic verbal interactions, an important component of psychodynamic treat-

ment (Walker & Bolkovatz, 1988). Play therapy may be used to address emotional conflicts associated with trauma, often incorporating materials (e.g., children's furniture, stuffed animals, dolls, writing/drawing implements) that permit symbolic behavior to be exhibited. For instance, Roje (1995) used an exposure-based art therapy intervention with 25 children exposed to an earthquake. Roje conceptualized the implementation of art therapy from a psychoanalytic framework, and the reported effectiveness of this intervention was inferred from general observations that did not include objective data, thus severely limiting confidence concerning the validity of these observations. Taken together, the empirical literature has provided inconclusive evidence regarding the efficacy of psychodynamic interventions for children with PTSD, primarily due to methodological limitations (e.g., lack of psychometrically sound assessments, absence of controlled investigations) that future research must overcome.

Hypnotherapy

Although first used primarily by psychoanalytic therapists, hypnosis may be practiced from a variety of theoretical orientations and with a number of different objectives (Brom et al., 1989). This flexibility likely has contributed to its increasing popularity; however, the goal of performing methodologically rigorous treatment-outcome evaluations consequently appears to represent an increasingly cumbersome endeavor. To date, few hypnotherapy studies have included procedural details, and efficacy for adults with PTSD has been supported only preliminarily (Brom et al., 1989).

Support for hypnotherapeutic techniques in the treatment of child survivors of traumatic events has been suggested solely through case reports (e.g., Friedrich, 1991; Kluff, 1991) and uncontrolled research (e.g., Rhue & Lynn, 1991). Although general symptom reduction typically has been described in these case studies, considerable procedural variability was evident across studies, and response to treatment varied widely across participants (e.g., Friedrich, 1991). Thus, the empirical literature has failed to contribute definitive support for the use of hypnotherapy in the treatment of PTSD with children.

Pharmacotherapy

To date, pharmacologic treatment of PTSD has received little research attention, and it is commonly viewed as a supplement to psychosocial treatment for individuals with

severe PTSD-related symptoms (Pfefferbaum, 1997). However, results of several case studies, open trials, and placebo-controlled trials are available in the adult-focused literature (for a review, see Marshall, Davidson, & Yehuda, 1998).

Research examining the efficacy of pharmacotherapy in the treatment of PTSD with children has not advanced beyond preliminary non-placebo-controlled investigations (Caddell & Drabman, 1993). Although some support has been provided for the use of beta-blocking agents (e.g., propranolol; Famularo, Kinscherff, & Fenton, 1988) and alpha agonists (e.g., clonidine; Harmon & Riggs, 1996) with abuse-exposed children, the absence of placebo controls limits the interpretation of these findings. Thus, it is important that researchers carefully assess the generalizability of treatment-outcome data with adult participants to populations of child trauma survivors with PTSD. Additionally, the literature would benefit from research comparing the effectiveness of pharmacologic and psychosocial treatments (alone and in combination), both with adult and child survivors of various potentially traumatic experiences.

Anxiety Management Training

Anxiety management training (AMT) comprises a variety of cognitive-behavioral treatment components designed to reduce anxiety by teaching individuals strategies to control anxious responding (Suinn, as cited in Foa & Meadows, 1998). Such techniques include, but are not limited to, relaxation training (e.g., deep muscle relaxation), cognitive restructuring (altering maladaptive thoughts), distraction techniques (e.g., "thought stopping"), breathing retraining, social skills training, and/or biofeedback (Foa & Meadows, 1998). Among the various combinations of AMT techniques, stress inoculation training (SIT; Meichenbaum, 1974; adapted for rape-related PTSD by Kilpatrick, Veronen, & Resick, 1982; also see Resick & Jordan, 1988) is the AMT package that has received the greatest amount of empirical attention with trauma-exposed individuals.

Stress Inoculation Training. Originally developed by Meichenbaum (1974), SIT combines several educational and repertoire-enhancing AMT techniques, such as deep muscle relaxation, breathing retraining, cognitive restructuring, and distraction (Foa, 1997). Two methodologically rigorous investigations in the adult literature have

provided some support for the efficacy of SIT for PTSD (Foa, Dancu, Hembree, Jaycox, & Meadows, 1997, as cited in Foa & Meadows, 1998; Foa, Rothbaum, Riggs, & Murdock, 1991).

Farrell, Hains, and Davies (1998) presented the sole investigation of the effectiveness of SIT with trauma-exposed children. Farrell and colleagues treated four sexually abused children (ages 8–10 years) using a multiple baseline design across participants. The SIT package was composed of several components, including education, cognitive restructuring, relaxation training, and role play (e.g., skill utilization in hypothetical situations identified by the child as stressful or upsetting). At baseline, each participant endorsed significant PTSD-related symptomatology on self-report questionnaires (diagnostic interviews were not administered), and three of the four children endorsed several symptoms of anxiety and depression. Across sessions, all participants reported significant reductions in symptoms associated with PTSD, anxiety, and depression. However, it should be noted that in each of these four cases, a decrease in PTSD symptoms occurred between the penultimate and final baseline sessions. Thus, the trend toward symptom reduction appeared to begin before treatment initiation. The absence of diagnostic data also limits the extent to which these results may be interpreted. Nonetheless, these findings offer preliminary support for the efficacy of SIT in treatment for children with PTSD.

Exposure-based Techniques

From a behavioral perspective, the onset and maintenance of PTSD symptoms typically are conceptualized within the framework of Mowrer's (1947, 1960) two-factor theory of avoidance. Interventions that have evolved from two-factor theory incorporate as a fundamental component active in-vivo and/or imaginal exposure (Lyons & Scotti, 1995). Forms of exposure-based treatment include, but are not limited to (a) systematic desensitization (SD), (b) graduated exposure, (c) prolonged exposure (e.g., implosion, flooding, imaginal exposure), and (d) eye-movement desensitization and reprocessing (EMDR).

Systematic Desensitization. SD involves imaginal and/or in-vivo exposure to fear-eliciting (e.g., trauma-related) stimuli during concurrent emission of behavior (e.g., deep muscle relaxation) that is functionally incompatible with fear responses in the presence of such stimuli. When

implementing SD, trauma-relevant stimuli are arranged and presented in a hierarchical fashion according to patient-reported subjective fear ratings, beginning with the least anxiety-eliciting stimuli and ending with stimuli that reportedly elicit the greatest anxiety. Only one randomized clinical trial has evaluated SD for adults with PTSD; some support for treatment efficacy was reported (Brom et al., 1989).

Published treatment-outcome studies for children with PTSD are virtually nonexistent. This may be due in part to empirical findings suggesting that flooding procedures are more efficacious than desensitization in the treatment of anxiety disorders (Foa & Rothbaum, 1998; Marks, Boulougouris, & Marset, 1971). However, SD is less intrusive than other exposure-based techniques and may be an appropriate alternative to techniques involving prolonged exposure for certain children and adults (Frueh, de Arellano, & Turner, 1997). For instance, Albano, Miller, Côté, and Barlow (1997) presented a case study involving a family with two prepubescent children with PTSD (assessed via structured clinical interview) following a dog attack. In this study, SD was used in the initial portion of treatment protocols for both children (ages 6 and 7 years), and was followed by sessions involving in-vivo exposure to feared stimuli. The authors reported improvements in fear-related symptoms across sessions; for instance, a posttreatment evaluation conducted by an independent observer suggested that neither child met criteria for PTSD. Despite this preliminary evidence in support of the use of SD for children with PTSD, one may extract few inferences from these data, particularly given the absence of controlled research from which to draw comparisons.

Graduated Exposure. Graduated exposure (GE) involves imaginal and/or in-vivo exposure to trauma-relevant stimuli presented in hierarchical fashion arranged according to patient-reported subjective fear ratings (least to most anxiety eliciting). GE techniques differ from SD in that relaxation exercises are not incorporated during presentation of anxiety-eliciting stimuli. Empirical evidence for the efficacy of GE with children has been suggested in the treatment of a variety of anxiety-related problems, including speech anxiety (e.g., Lawm, Schwartz, Houlihan, & Cassisi, 1994), separation anxiety (e.g., Hagopian & Slifer, 1993), social anxiety (e.g., Cappe & Alden, 1986), and agoraphobia (e.g., Michelson,

Mavissakalian, & Marchione, 1985). However, researchers have not adequately explored the efficacy of this technique with adults and children diagnosed with PTSD. This lack of research with trauma-exposed children is surprising, given the potential advantages of GE relative to other exposure-based approaches. For instance, GE sessions are likely to be conducted within the confines of a typical outpatient session, whereas imaginal exposure paradigms often involve lengthy or massed sessions. Further, many clinicians (and their patients) indicate that they are more willing to endure the level of distress generated via gradual progression through a fear hierarchy than the extreme levels of distress often encountered in typical flooding/implosion sessions. This is particularly apparent among clinicians conducting treatment with children.

Implosion/Flooding and Prolonged Exposure. Because procedural similarities across techniques are considerable, we simultaneously present empirical findings associated with implosion, flooding, and prolonged exposure. To minimize confusion, we use one label, prolonged exposure, when presenting empirical findings relevant to the efficacy of each. Several randomized clinical trials have examined the efficacy of prolonged exposure in treatment for adults with PTSD (Foa et al., 1991; Foa et al., 1997, as cited in Foa & Meadows, 1998; Keane, Fairbank, Caddell, & Zimering, 1989; Marks, Lovell, Noshirvani, Livanou, & Thrasher, 1998). Despite the apparent effectiveness of prolonged exposure in treatment for adults with PTSD, research with trauma-exposed children is limited to several successful case illustrations with survivors of war-related events (e.g., Saigh, 1986, 1987b, 1987c, 1989), torture (e.g., Saigh, 1987a), and technological disasters (e.g., Yule, 1998). In each of these case studies, reductions in PTSD-related symptoms were reported over the course of treatment. However, to date there are no controlled group-design treatment-outcome studies targeting the utility of these interventions for children with PTSD. This lack of methodologically rigorous research is alarming, particularly when one considers the widespread occurrence of certain potentially traumatic events in childhood, such as sexual abuse (Wolfe & Birt, 1997), and the high prevalence of PTSD among children who encounter such events (e.g., McLeer et al., 1998).

EMDR. Some support for the effectiveness of EMDR in treatment for adults with PTSD has been reported in

methodologically rigorous research (e.g., Rothbaum, 1997; but also see Macklin et al., 2000). In what appears to be the sole application, facilitated by objective PTSD-related assessment, of EMDR techniques to child survivors of traumatic events, Cocco and Sharpe (1993) illustrated the use of an auditory variant of EMDR (sequential rapid finger clicking) in the treatment of a 4-year-old child diagnosed with PTSD. Imaginal exposure was guided with a picture of the traumatic scene (armed burglary) drawn by the child. Clear reductions in nightmares, bedwetting, and other sleep disturbances were reported after one session, and follow-up assessments conducted 1 and 6 months posttreatment suggested that treatment gains were maintained. Although significant reductions in presenting problems were evident, few conclusions may be drawn from this single case report. For instance, one cannot estimate the degree to which symptom reduction was correlated with finger snapping, written exposure (drawing), imaginal exposure, general therapist contact, or some other factor. Additional examples that involve the implementation of EMDR with children have been carefully illustrated by Tinker and Wilson (1999). It should be noted, however, that these examples lack objective PTSD-related assessment of treatment efficacy.

Combining Exposure-Based Approaches With AMT Techniques

Exposure-based techniques and AMT increasingly have been recognized as the two most efficacious interventions with respect to improvements in short- and long-term trauma-related symptomatology, and controlled group-design investigations have tended to support this observation (Keane, 1998). We now turn to group-design treatment-efficacy research for children with PTSD that highlights the use of exposure-based techniques in conjunction with components of AMT.

Cognitive-Behavioral Programs. Several methodologically rigorous studies have supported the efficacy of interventions that combine exposure-based and AMT techniques in treatment for adults with PTSD (e.g., Bryant, Harvey, Dang, Sackville, & Basten, 1998; Foa, Hearst-Ikeda, & Perry, 1995). For children with PTSD, however, only three group-design treatment-outcome studies have combined exposure-based and AMT techniques. In the first of these studies, Deblinger and colleagues (1990) pre-

sented promising findings with 19 sexually abused female children. All of the child participants were diagnosed with PTSD and were treated with exposure-based interventions in conjunction with coping skills training and education/prevention training (see Deblinger & Heflin, 1996). Additionally, parents (those who were not perpetrators of the abuse) were taught coping strategies, behavior management skills, and communication and modeling strategies to facilitate future parent-child interactions. A comparison of pre- and posttreatment assessment results with child participants revealed a statistically significant reduction in the number of PTSD, depression, and general anxiety symptoms endorsed. Although these findings suggest that the treatment package used by Deblinger et al. was effective in treating trauma-related symptoms, the interpretation of these findings is limited due to the absence of randomization to a control condition. Procedural variability in exposure techniques across participants also limit the precision with which findings might be interpreted. For instance, children were given the opportunity to select from several methods of exposure, including imaginal exposure, doll play, drawing, and letter writing. Further, one cannot dismiss the importance of uncontrolled factors potentially correlated with symptom reduction, such as the passage of time and degree of therapist contact. Nonetheless, this study represents an important step toward evaluating the use of cognitive-behavioral strategies in treatment of children with PTSD.

Goenjian and colleagues (1997) published a controlled group-design treatment-outcome study for children with PTSD. Participants included 64 early adolescents, all exposed to an earthquake in Armenia that killed at least 25,000 people (nearly 5% of a region populated by approximately 550,000 individuals). A brief trauma/grief-focused treatment was initiated 18 months after the earthquake for 35 of the 64 participants; the remaining 29 participants were assigned to an assessment-only condition. As a result of the limited resources available to the researchers, group assignment was nonrandom. However, initial assessment revealed an absence of demographic, earthquake-related (e.g., extent of damage), and PTSD-relevant differences between groups (see Goenjian et al., 1997, for further details). Treatment was conducted over a 3-week period and included four 30 min classroom group sessions and an average of two 1-hr individual sessions. Treatment consisted of exposure-based procedures (event-focused talking, drawing) and various AMT-

related techniques (e.g., education, relaxation exercises, problem solving, cognitive restructuring). Before the initiation of treatment, using PTSD-sensitive cutoffs generated for the CPTS-RI (Frederick et al., 1992), it was estimated that 60% of adolescents assigned to the treatment group and 52% of adolescents in the control group met criteria for PTSD. Three years after the earthquake, approximately 18 months after initial assessment, participants in each group were reassessed; it was estimated that 28% of treated adolescents and 69% of untreated adolescents met criteria for PTSD. This was a statistically significant improvement for treated adolescents relative to untreated controls. Although these findings offer support for the use of exposure-based and AMT techniques with adolescents diagnosed with PTSD, several issues remain unresolved. For instance, it was unclear whether certain treatment components were more effective than others. Additionally, the percentage (28%) of treated adolescents with PTSD at follow-up assessment suggests that treatment may have been too brief or insufficient for some adolescents. Despite these limitations concerning interpretability of the data, Goenjian and colleagues have contributed an important step in the identification of efficacious interventions for children and adolescents with PTSD.

In the third group-design treatment-outcome study for children with PTSD, March, Amaya-Jackson, Murray, and Schulte (1998) presented findings that offer additional preliminary support for the combined use of AMT and exposure therapy with children. In this study, 17 non-treatment-seeking schoolchildren (grades 4-9) diagnosed with PTSD agreed to participate in a group-administered cognitive-behavioral treatment protocol. These children had been exposed to a variety of different potentially traumatic events, including car accidents, severe illness, severe storms, fires, accidental injury, gunshot injury, and the witnessing of death by fire and criminal assault. The treatment protocol incorporated several AMT techniques (e.g., deep muscle relaxation, diaphragmatic breathing, cognitive restructuring), anger control strategies, and graded imaginal and in-vivo exposure-based procedures. Conservatively, imaginal exposure to trauma-related stimuli was not initiated until midway through this protocol (session 10 of 18), after several different AMT skills had been taught. At posttreatment assessment, 14 of the 17 participants remained: one withdrew participation, one was dismissed for inconsistent attendance, and one moved

away. Six of the remaining 14 children (43%) met criteria for PTSD at posttreatment assessment; 2 of 14 (14%) reportedly met criteria for PTSD at 6-month follow-up. However, as for the study conducted by Deblinger et al. (1990), interpretation of findings is limited due to the absence of randomization to a control condition (e.g., alternative form of treatment, wait-list control). Further, although several appropriate forms of statistical control were used by March and colleagues (e.g., staggered treatment start date), the use of a single pretreatment assessment session precluded interpretations regarding the stability of symptomatology before treatment began. Thus, other variables in relation to symptom reduction associated with the passage of time cannot be dismissed. March and colleagues added that assessments were not administered blindly, and the generalizability of these findings to treatment-seeking trauma-exposed children is unknown.

Taken together, the three studies reviewed in this section provide some support for the use of interventions that include a combination of exposure-based and AMT procedures. Replication and extension of these findings through studies with greater methodological rigor is necessary for continued advancement of this growing literature. Before attempts to advance this literature are made, however, several variables must be taken into consideration that have clear methodological implications for research with children and adolescents. Thus far, in addition to our review of potentially effective interventions, we have referred to several instruments that are likely to assist researchers in assessment with children and adolescents. However, with these populations a variety of developmental and ethical issues also are important to consider. We now turn to relevant developmental considerations.

DEVELOPMENTAL CONSIDERATIONS

Among the child-focused treatment-outcome studies reviewed in this article, few have included multiple participants with developmentally specific differences. For this reason, few investigations have yielded developmentally sensitive implications. We refer to three studies in particular that illustrate some of the developmental considerations that have arisen in research of this nature. Deblinger and colleagues (1990) reported an absence of age-specific differences in response to treatment among their sample of 19 girls (ages 3 to 16 years) with abuse-related PTSD. However, flexibility in their treatment module permitted children to choose from various forms of exposure that

may vary in their developmental appropriateness (e.g., discussion, doll play, drawing, reading, singing). Age-specific differences with regard to the selection, utilization, and apparent effectiveness of these forms of exposure were not presented.

March and colleagues (1998) reported that, among their sample of 17 child participants, statistical analyses revealed an absence of differences on all measures between elementary and junior high school students. However, relative to the study conducted by Deblinger et al. (1990), age (10–15 years) and grade-level ranges (4–9) were fairly restricted. Additionally, March and colleagues noted that visual inspection of the data “suggests that the elementary school subjects did not appear to improve quite as quickly or as much as those in junior high groups” (p. 588). These authors later concluded that the treatment protocol used in their study was somewhat developmentally insensitive; they since have developed separate protocols for elementary and middle/high school children.

Albano, Miller, Côté, and Barlow (1997) offered relatively greater detail with regard to developmental differences across participants (ages 2, 4, 6, and 7) exposed to the same potentially traumatic event (one was directly exposed while the others witnessed the event). For instance, these authors noted that the expression of trauma-relevant symptoms was such that “as the age of the child increased, the more cognitively mediated symptoms and expression of fear became apparent” (p. 259). Additionally, the authors acknowledged the utility of verbal/imaginal exposure with the oldest two children in part because these children recognized their fears as excessive. The youngest two children, on the other hand, did not appear to be appropriate candidates for verbal/imaginal exposure, and instead likely benefited in treatment from direct contact with trauma-related cues and through vicarious observation of their older siblings.

In addition to the studies reviewed above, several sources in the literature are recommended to researchers and clinicians who wish to gain familiarity with developmental issues in the assessment and treatment of anxiety-related responding (e.g., Kendall & Flannery-Schroeder, 1998; Kendall, Panichelli-Mindel, Sugarman, & Callahan, 1997; Pynoos & Nader, 1993; Pynoos, Steinberg, & Wraith, 1995). Pynoos and colleagues (Pynoos, 1993; Pynoos & Nader, 1993; Pynoos, Goenjian, & Steinberg, 1995; Pynoos, Steinberg, & Wraith, 1995) have published several articles targeting developmental issues that are

directly pertinent for the assessment and treatment of PTSD-relevant responding. Perhaps most important, Pynoos, Goenjian, and Steinberg (1995; also see Nader, Stuber, & Pynoos, 1991) have emphasized the use of multiple informant assessment, particularly with young children. As stated previously, various classes of responding may persist after a potentially traumatic events, some that are PTSD-related, and many that are not. For this reason, information collected from preadolescent children should be supplemented with comprehensive assessment through parental reports of the child's general psychopathology and responses to intervention. Unfortunately, however, multiple-informant assessment does not fully alleviate assessment-related difficulties. For instance, informant discrepancies in rating-scale assessment are recurrent and difficult to interpret, and efforts to identify predictors of informant discrepancies in an attempt to minimize their occurrence have been unsuccessful to date (see Achenbach, McConaughy, & Howell, 1987).

Pynoos and colleagues have illustrated several environmental and behavioral differences that may be identified with children of varying ages. For instance, as children become older and separation from parents occurs more frequently, an accumulating abundance of trauma-relevant risk factors are evident in the various school and neighborhood environmental circumstances to which children are exposed (Pynoos, 1993; Pynoos, Steinberg, & Wraith, 1995). Thus, adolescents are more likely to be involved in peer groups that potentially increase the risk of life threat and injury. Additionally, avoidance and other forms of anxiety-related responding in the presence of trauma-relevant cues encountered in social contexts may be difficult to identify, as well as predict and control, by clinicians attempting to use in-vivo exposure-based interventions with adolescents. In contrast, exposure-based interventions may be less difficult to use with younger children because the events they encounter may be more likely to occur in controlled settings that might, to a large degree, be reconstructed to facilitate exposure in vivo.

The way in which children appraise potentially traumatic experiences is also important (Pynoos, 1993; Pynoos, Steinberg, & Wraith, 1995). For instance, Pynoos and colleagues acknowledged that infants and young toddlers, when responding to situations of uncertainty concerning safety and risk, typically rely on social referencing to attachment figures and emit approach responses toward attachment figures when faced with persisting uncertainty

or apparent risk. Preschool-age children tend to rely less on social referencing and more on "natural clues" that may or may not elicit fearful responding in the form of approach toward attachment figures (avoidance from feared situation). School-age children, in contrast, tend to recognize more fully situations of potential threat and are less likely to approach attachment figures in the face of uncertain but potential risk. Finally, Pynoos (1993) stated that adolescents tend to more fully envision the threatened harm and potential consequences that follow. It is in this sense that PTSD-related treatment with adolescents may most closely approximate interventions used with trauma-exposed adults.

Recent advances in the adult PTSD literature may be useful in guiding the design of developmentally sensitive models for treating children with PTSD. However, it is not sufficient to infer the appropriateness of treatment techniques for children based entirely on results of treatment-outcome research with adult participants. To illustrate, several variables that rarely are applicable for trauma-exposed adults may commonly be of central importance in treatment with children to varying extents depending on the child's developmental level. For example, a lack of parental support during and after disclosure of sexual abuse has been associated with higher levels of symptomatology (Fromuth, 1986; Roesler, 1994). Also, Pynoos (1993) points to the increased likelihood, particularly with young children, that trauma-relevant cues will elicit avoidance in the form of attachment behavior (i.e., responses that are reinforced with parental protection). It is suggested that these responses may be accompanied by misperceptions and appraisals that either minimize or exaggerate the extent to which trauma-relevant cues are threatening or harmful. Clearly, parents may play a crucial role in the treatment of PTSD with children, and research targeting this issue may lend invaluable guidance for the development and refinement of treatment procedures for trauma-exposed youth.

Several other variables that potentially are predictive of treatment outcome warrant attention as well, although a full discussion is beyond the scope of this review. For instance, some studies have identified varying levels of childhood psychopathology in relation to specific event characteristics that include, but are not limited to, event severity, frequency, and duration (e.g., Ruggiero, McLeer, & Dixon, 2000; Scotti et al., 1995; Wolfe & McEachran, 1997), and also likely include the relatively

under-researched characteristics of event predictability and controllability (see Foa, Zinbarg, & Rothbaum, 1992). Although these variables have, to some extent, been examined in relation to childhood psychopathology, studies typically have not assessed treatment outcome in relation to these variables (see Cohen & Mannarino, 1996a, for a rare exception, but one that does not include PTSD-related assessment). An additional child-specific variable that may influence the course of treatment with children, particularly children who encounter intrafamilial abuse, is temporary or long-term placement in foster care. For instance, a child placed in foster care may encounter household rules (and contingencies for rule breaking) to which he or she is not accustomed. Environmental changes of this nature may lead to an escalation of problem behavior and thus have debilitating effects on an initially supportive relationship with foster parents.

Aside from the several child-specific issues that may influence the course of treatment (e.g., parent involvement, foster placement), the principal components of treatment with trauma survivors typically do not differ between children and adults. For instance, exposure and AMT techniques, often considered to be the principal components in treatment packages, usually are implemented similarly with trauma-exposed children and adults. Some exceptions might include the more frequent use of play or nonverbal treatment techniques with young children relative to older children and adults (Ridley, 1997; Vernberg & Vogel, 1993) and the tendency of clinicians who use exposure-based procedures to favor techniques that involve graduated exposure with children and implosion with adults. Generally speaking, however, the goals and course of treatment with adult participants parallel the goals and course of treatment with children of varying ages. For this reason, researchers appear to have inferred, for instance, that empirical support for the efficacy of exposure-based and AMT techniques with adults implies that these strategies also should be useful in treatment with trauma-exposed children. To date, however, little empirical evidence exists to substantiate this inference. Thus, the scientific evaluation of various interventions with trauma-exposed children is a necessary next step toward the design of developmentally sensitive child-specific interventions.

ETHICAL CONSIDERATIONS

We have reviewed results of research examining the effectiveness of various PTSD-related treatment ap-

proaches with adult and child trauma survivors. We intend also to offer suggestions for future research, particularly concerning the development of child-specific interventions. First, however, we note several ethical issues that require serious contemplation before implementing treatment with trauma-exposed children.

Kilpatrick and Best (1984) voiced several important ethical concerns that apply to the treatment of PTSD with children and adults, stating that "a treatment that has as a fundamental component the intended inducement of anxiety is not without major risks" (p. 422). Kilpatrick and Best (cf. Rychtarik, Silverman, Van Landingham, & Prue, 1984a, 1984b) cautioned against extinguishing rational fears to high-risk circumstances (thus potentially increasing the risk of revictimization) and also warned that the distressing nature of exposure techniques may lead to high dropout rates. Pitman et al. (1991) provided six case vignettes that highlighted various complications occurring in the context of exposure treatment for PTSD, such as substance-abuse relapse and patient-initiated treatment discontinuation after recollections of previously forgotten aspects of traumatic experiences.

Particularly when applying exposure-based techniques in treatment for children with PTSD, children and their parents should be thoroughly educated regarding the actual procedures and the high potential for symptom exacerbation during the early phases of therapy (Saigh, Yule, & Inamdar, 1996). Saigh (1987c) added that a variety of treatment options (e.g., systematic desensitization, implosion) may be introduced to the child and parent, who may then select the preferred treatment. Before presenting treatment options, however, clinicians should determine whether a particular individual is an appropriate candidate for specific forms of treatment. For instance, Litz, Blake, Gerardi, and Keane (1990) noted several factors that often deter clinicians from using exposure-based procedures, such as a history of treatment nonadherence, comorbidity involving psychosis, inability to tolerate intense levels of arousal, and poor imaging ability. Clearly, several important steps should be taken by clinicians before initiating treatment, particularly exposure-based techniques, with child trauma survivors. With the exception of parental involvement, these steps also should be followed when treating adult trauma survivors.

Developmental differences may play an important role in the procedures appropriate for gaining informed consent for treatment participation. For instance, intent to implement one or more AMT techniques with a 15-year-

old survivor of a minor traffic accident requires a considerably different briefing process relative to a case in which a clinician plans to use an exposure-based intervention with an 8-year-old survivor of severe intrafamilial sexual abuse. For the latter case, short-term exacerbation of PTSD-related symptomatology is more likely to occur, and this issue should be discussed with the parent before treatment. In the event that symptom exacerbation occurs during the initial stages of treatment, parents who are not informed of this frequent effect may assume that the intervention is ineffective and may elect to withdraw the child from treatment prematurely.

Issues of treatment adherence also should be discussed with the parent and child before implementing treatment. For instance, a particular treatment protocol may require parent(s) to receive training in behavior management and problem solving. Additionally, children may be asked to complete various "homework" tasks (e.g., daily relaxation exercises, listening to audiotaped exposure scenes) for which ratings of distress often are recorded. Clinicians should inform parents about these components of treatment, and the importance of adherence to these home exercises should be emphasized. Perhaps most important, particularly when using exposure-based techniques, cancellations and no-shows should be discouraged and regular attendance strongly encouraged. For additional discussion regarding ethical, procedural, and compliance issues during exposure-based treatment for children with PTSD, see Saigh, Yasik, Oberfield, and Inamdar (1999).

CONCLUSIONS AND FUTURE DIRECTIONS

Many steps remain in the development of effective protocols for the treatment of child trauma survivors with PTSD. Even after several significant contributions to the adult literature over the past decade, little is known about the effectiveness of psychodynamic treatment, hypnosis, and pharmacotherapy relative to exposure-based and AMT techniques in treatment of adults with PTSD. Among the latter two treatment classes, systematic desensitization, graduated exposure, EMDR, and several specific AMT components (e.g., thought stopping) have yet to be compared with treatments such as implosion and SIT. Of further importance, research examining exposure-based techniques in conjunction with specific AMT components has not advanced beyond the preliminary stages.

Among Kazdin's (1997) seven steps toward establishing effective interventions, only the initial two have been tar-

geted extensively with trauma-exposed children: conceptualization of the problem area and empirical examination of this conceptualization. Although treatment components for child trauma survivors certainly have been formulated (e.g., Knell & Ruma, 1996; Lipovsky, 1992; Saigh, 1992; Saigh et al., 1999), preliminary support has been offered only for exposure therapy (Saigh, 1992), AMT techniques (e.g., Farrell et al., 1998), and cognitive-behavioral packages that combine the use of exposure-based and AMT techniques (e.g., Deblinger et al., 1990; Goenjian et al., 1997; March et al., 1998). Thus, improvement in methodological rigor (e.g., the inclusion of wait-list and control-treatment comparison groups) is an important next step for these methods of treatment. For other forms of intervention (e.g., psychodynamic, hypnotherapy), case illustrations represent the first step toward identifying effective treatment techniques. Thus, for these interventions, data-guided case reports and open trials need to be conducted, and treatment components must be operationalized clearly to facilitate replication and evaluation. Of additional importance, researchers should document complications and developmental considerations that arise during treatment so that informed modifications may be proposed for children with various presenting characteristics.

Despite the apparent success of exposure-based techniques with trauma-exposed adults with PTSD, few clinical researchers have used these techniques with children. Mental health professionals proposing intervention models in treatment with children exposed to various potentially traumatic experiences, such as sexual abuse (e.g., Brady, 1991) and witnessing domestic violence (e.g., Wilson, Cameron, Jaffe, & Wolfe, 1989), have tended to focus on educational components to treatment, rather than on coping strategies (anxiety management techniques) and exposure-based procedures. Ridley (1997) found that clinical and counseling psychologists tend to report a bias against imaginal exposure in favor of skills training, contingency management, and play therapy with children. Additionally, Ridley noted an apparent bias against diagnosing PTSD in child sexual abuse survivors relative to adult survivors of rape or combat. The reasons for the apparent hesitancy to diagnose PTSD and implement exposure-based techniques with trauma-exposed children are not entirely clear. Several researchers have voiced ethical concerns about the use of exposure with trauma survivors, but precautions described earlier (e.g., pretreatment briefing) may be taken to minimize these hypothesized

contraindications. Another reason for the lack of research examining exposure-based techniques may involve clinician discomfort concerning the use of anxiety-evoking treatments with trauma-exposed children (Ridley, 1996). However, despite knowledge of the potential unpleasantness of exposure therapy, even trauma-exposed children and their parents often consent to be treated with exposure (e.g., Saigh, 1987c, 1989). Similarly, in the best interests of treatment-seeking trauma survivors, mental health professionals should place priority on the effectiveness, rather than on pleasantness, of a particular intervention (also see Cohen & Mannarino, 1996b, regarding cases that have legal implications).

Additional factors, to some extent, also may help to explain the relative lack of child-focused research targeting treatment for PTSD. For instance, some researchers have suggested that parents often underreport various forms of internalizing behavior (e.g., specific fears) while overreporting externalizing forms of behavior (Perrin et al., 2000). Also, parents may tend to minimize the effects that traumatic events have had on their children (Sternberg et al., 1993). For these reasons, clinicians may be less likely to identify the trauma relatedness of presenting concerns for some percentage of trauma-exposed, treatment-seeking children. Clinicians also should take caution not to assume the trauma relatedness of presenting concerns when a trauma-relevant history is endorsed until a comprehensive assessment supports this hypothesis.

Although virtually no research has examined the role of various interventions with parents of trauma-exposed children, this likely represents an area of crucial importance in the future development of the child-specific PTSD treatment literature. As implied by research suggesting a relation between parental social support and trauma-relevant symptomatology in children, parental compliance with treatment components that target social support, communication, and behavior management may predict to a great extent whether certain children will benefit from treatment. To offer one example, training in behavior management may increase the likelihood that the parent will recognize, and respond appropriately to, trauma-related avoidant behavior that is maintained by factors other than reductions in anxiety, such as maternal attention. Also, in cases of interpersonal victimization, parents who are appropriately trained in behavior management skills may come to recognize instances in which they are reinforcing avoidant behavior (e.g., staying

home) to reduce their own fears of the child's potential revictimization.

Controlled group-design treatment efficacy studies are important endeavors that should be a priority for researchers as new and refined therapeutic techniques continue to be introduced in the trauma and PTSD literature. Toward this end, future research needs to offer methodologically rigorous comparisons between various techniques in the treatment of PTSD with children and adults. Although the child-focused PTSD treatment literature largely has remained dormant in the wake of significant developments within the adult literature, many treatment techniques have included child-specific procedures (e.g., Deblinger et al., 1990; Deblinger & Heflin, 1996). Thus, a breadth of opportunities for empirical evaluation awaits researchers seeking to extend the literature on the childhood treatment of PTSD-related responding.

NOTE

Kenneth J. Ruggiero is now at the National Crime Victims Research and Treatment Center, Medical University of South Carolina.

ACKNOWLEDGMENT

We gratefully acknowledge Cheryl B. McNeil and Aline E. Rabalais for their helpful comments on earlier drafts of this review.

REFERENCES

- Achenbach, T. M., McConaughy, S., & Howell, C. (1987). Child/adolescent behavioral and emotional problems: Implications of cross-informant correlation for situational specificity. *Psychological Bulletin*, *101*, 213-232.
- Albano, A. M., Miller, P. P., Côté, G., & Barlow, D. H. (1997). Behavioral assessment and treatment of PTSD in prepubertal children: Attention to developmental factors and innovative strategies in the case study of a family. *Cognitive and Behavioral Practice*, *4*, 245-262.
- American Psychiatric Association (APA) (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- Angold, A., & Costello, E. J. (1995). A test-retest reliability study of the child-reported psychiatric symptoms and diagnoses using the Child and Adolescent Psychiatric Assessment (CAPA-C). *Psychological Medicine*, *25*, 755-762.
- Astin, M. C., Ogland-Hand, S. M., Coleman, E. M., & Foy, D. W. (1995). Posttraumatic stress disorder and childhood abuse in battered women: Comparisons with maritally dis-

- tressed women. *Journal of Consulting and Clinical Psychology*, 63, 308-312.
- Brady, G. L. (1991). A group-work approach for sexually abused preschoolers. *Journal of Group Psychotherapy, Psychodrama, and Sociometry*, 43, 174-183.
- Briere, J. (1996). *Trauma Symptom Checklist for Children (TSCC) professional manual*. Odessa, FL: Psychological Assessment Resources.
- Briere, J., Johnson, K., Damon, L., Bissada, A., Crouch, J., Gil, E., Hanson, R., & Ernst, V. (2000, January). *The Trauma Symptom Checklist for Young Children (TSCYC): Reliability and predictive data from a multi-site study*. Paper presented at the San Diego Conference on Responding to Maltreatment, San Diego, CA.
- Brom, D., Kleber, R. J., & Defares, P. B. (1989). Brief psychotherapy for posttraumatic stress disorders. *Journal of Consulting and Clinical Psychology*, 57, 607-612.
- Bryant, R. A., Harvey, A. G., Dang, S. T., Sackville, T., & Basten, C. (1998). Treatment of acute stress disorder: A comparison of cognitive-behavioral therapy and supportive counseling. *Journal of Consulting and Clinical Psychology*, 66, 862-866.
- Caddell, J. M., & Drabman, R. S. (1993). Post-traumatic stress disorder in children. In R. T. Ammerman & M. Hersen (Eds.), *Handbook of behavior therapy with children and adults* (pp. 219-235). Boston: Allyn & Bacon.
- Cappe, R. F., & Alden, L. E. (1986). A comparison of treatment strategies for clients functionally impaired by extreme shyness and social avoidance. *Journal of Consulting and Clinical Psychology*, 54, 796-801.
- Cocco, N., & Sharpe, L. (1993). An auditory variant of eye movement desensitization in a case of childhood post-traumatic stress disorder. *Journal of Behavior Therapy and Experimental Psychiatry*, 24, 373-377.
- Cohen, J. A., & Mannarino, A. P. (1996a). Factors that mediate treatment outcome of sexually abused preschool children. *Journal of the American Academy of Child and Adolescent Psychiatry*, 34, 1402-1410.
- Cohen, J. A., & Mannarino, A. P. (1996b). A treatment outcome study for sexually abused preschool children: Initial findings. *Journal of the American Academy of Child and Adolescent Psychiatry*, 35, 42-50.
- Cohen, J. A., & Mannarino, A. P. (1997). A treatment study for sexually abused preschool children: Outcome during a one-year follow-up. *Journal of the American Academy of Child and Adolescent Psychiatry*, 36, 1228-1235.
- Costello, E. J., Angold, A., March, J., & Fairbank, J. (1998). Life events and post-traumatic stress: The development of a new measure for children and adolescents. *Psychological Medicine*, 28, 1275-1288.
- Deblinger, E., & Heflin, A. H. (1996). *Treating sexually abused children and their nonoffending parents: A cognitive behavioral approach*. Thousand Oaks, CA: Sage.
- Deblinger, E., McLeer, S. V., & Henry, D. (1990). Cognitive behavioral treatment for sexually abused children suffering post-traumatic stress: Preliminary findings. *Journal of the American Academy of Child and Adolescent Psychiatry*, 29, 747-752.
- Fairbank, J. A., Schlenger, W. E., Caddell, J. M., & Woods, M. G. (1993). Post-traumatic stress disorder. In P. B. Sutker & H. E. Adams (Eds.), *Comprehensive handbook of psychopathology* (2nd ed., pp. 145-165). New York: Plenum.
- Famularo, R., Kinschert, R., & Fenton, T. (1988). Propranolol treatment for childhood posttraumatic stress disorder, acute type: A pilot study. *American Journal of Diseases of Children*, 142, 1244-1247.
- Farrell, S. P., Hains, A. A., & Davies, W. H. (1998). Cognitive behavioral interventions for sexually abused children exhibiting PTSD symptomatology. *Behavior Therapy*, 29, 241-255.
- Foa, E. B. (1997). Trauma and women: Course, predictors, and treatment. *Journal of Clinical Psychiatry*, 58 (suppl. 9), 25-28.
- Foa, E. B., Hearst-Ikeda, D., & Perry, K. J. (1995). Evaluation of a brief cognitive-behavioral program for the prevention of chronic PTSD in recent assault victims. *Journal of Consulting and Clinical Psychology*, 63, 948-955.
- Foa, E. B., & Meadows, E. A. (1997). Psychosocial treatments for posttraumatic stress disorder: A critical review. *Annual Review of Psychiatry*, 48, 449-480.
- Foa, E. B., & Meadows, E. A. (1998). Psychosocial treatments for posttraumatic stress disorder. In R. Yehuda (Ed.), *Psychological trauma* (pp. 179-204). Washington DC: American Psychiatric Press.
- Foa, E. B., & Rothbaum, B. O. (1998). *Treating the trauma of rape: Cognitive-behavioral therapy for PTSD*. New York: Guilford.
- Foa, E. B., Rothbaum, B. O., Riggs, D. S., & Murdock, T. B. (1991). Treatment of posttraumatic stress disorder in rape victims: A comparison between cognitive-behavioral procedures and counseling. *Journal of Consulting and Clinical Psychology*, 59, 715-723.
- Foa, E. B., Zinbarg, R., & Rothbaum, B. O. (1992). Uncontrollability and unpredictability in post-traumatic stress disorder: An animal model. *Psychological Bulletin*, 112, 218-238.
- Frederick, C., Pynoos, R., & Nader, K. (1992). *Childhood PTSD Reaction Index (CPTS-RI)*. Unpublished instrument. Los Angeles, CA.
- Friedrich, W. N. (1991). Hypnotherapy with traumatized children. *International Journal of Clinical and Experimental Hypnosis*, 39, 67-81.
- Fromuth, M. (1986). The relationship of childhood sexual abuse with later psychological and sexual adjustment in a sample of college women. *Child Abuse and Neglect*, 10, 5-15.
- Frueh, B. C., de Arellano, M. A., & Turner, S. M. (1997). Sys-

- tematic desensitization as an alternative exposure therapy for PTSD. *American Journal of Psychiatry*, 154, 287-288.
- Goenjian, A. K., Karayan, I., Pynoos, R. S., Minassian, D., Najarian, L. M., Steinberg, A. M., & Fairbanks, L. A. (1997). Outcome of psychotherapy among early adolescents after trauma. *American Journal of Psychiatry*, 154, 536-542.
- Hagopian, L. P., & Slifer, K. J. (1993). Treatment of separation anxiety disorder with graduated exposure and reinforcement targeting school attendance: A controlled case study. *Journal of Anxiety Disorders*, 7, 271-280.
- Harmon, R. J., & Riggs, P. D. (1996). Clonidine for posttraumatic stress disorder in preschool children. *Journal of the American Academy of Child and Adolescent Psychiatry*, 35, 1247-1249.
- Jones, R. T. (1992). *Impact of Event Scale for Children*. Unpublished instrument. Blacksburg, VA: Department of Psychology, Virginia Polytechnic Institute and State University.
- Jones, R. T. (1994). *Child's Reaction to Traumatic Events Scale (CRTES): A self report traumatic stress measure*. Unpublished instrument. Blacksburg, VA: Department of Psychology, Virginia Polytechnic Institute and State University.
- Kazdin, A. E. (1997). A model for developing effective treatments: Progression and interplay of theory, research, and practice. *Journal of Clinical Child Psychology*, 26, 114-129.
- Keane, T. M. (1998). Psychological and behavioral treatments of post-traumatic stress disorder. In P. E. Nathan & J. M. Gorman (Eds.), *A guide to treatments that work* (pp. 398-407). New York: Oxford.
- Keane, T. M., Fairbank, J. A., Caddell, J. M., & Zimering, R. T. (1989). Implosive (flooding) therapy reduces symptoms of PTSD in Vietnam combat veterans. *Behavior Therapy*, 20, 245-260.
- Keane, T. M., Fisher, L. M., Krinsley, K. E., & Niles, B. L. (1994). Posttraumatic stress disorder. In M. Hersen & R. T. Ammerman (Eds.), *Handbook of prescriptive treatments for adults* (pp. 237-260). New York: Plenum.
- Kendall, P. C., & Flannery-Schroeder, E. C. (1998). Methodological issues in treatment research for anxiety disorders in youth. *Journal of Abnormal Child Psychology*, 26, 27-38.
- Kendall, P. C., Panichelli-Mindel, S. M., Sugarman, A., & Callahan, S. A. (1997). Exposure to child anxiety: Theory, research, and practice. *Clinical Psychology: Science and Practice*, 4, 29-39.
- Kilpatrick, D. G., & Best, C. L. (1984). Some cautionary remarks on treating sexual assault victims with implosion. *Behavior Therapy*, 15, 421-423.
- Kilpatrick, D. G., Veronen, L. J., & Resick, P. A. (1982). Psychological sequelae to rape: Assessment and treatment strategies. In D. M. Doleys, R. L. Meredith, & A. R. Ciminero (Eds.), *Behavioral medicine: Assessment and treatment strategies* (pp. 473-497). New York: Plenum.
- Kiser, L. J., Heston, J., Millsap, P. A., & Pruitt, D. B. (1991). Physical and sexual abuse in childhood: Relationship with posttraumatic stress disorder. *Journal of the American Academy of Child and Adolescent Psychiatry*, 30, 776-783.
- Kluft, R. P. (1991). Hypnosis in childhood trauma. In W. C. Wester & D. J. O'Grady (Eds.), *Clinical hypnosis with children* (pp. 53-68). New York: Brunner/Mazel.
- Knell, S. M., & Ruma, C. D. (1996). Play therapy with a sexually abused child. In M. A. Reineke, F. M. Dattilio, & A. Freeman (Eds.), *Cognitive therapy with children and adolescents: A casebook for clinical practice* (pp. 367-393). New York: Guilford.
- Kulka, R. A., Schlenger, W. E., Fairbank, J. A., Hough, R. L., Jordan, B. K., Marmar, C. R., & Weiss, D. S. (1990). *Trauma and the Vietnam War generation: Report of findings from the National Vietnam Veterans Readjustment Study*. New York: Brunner/Mazel.
- Lawm, G. D., Schwartz, C., Houlihan, D., & Cassisi, J. E. (1994). Graduated exposure plus feedback in the treatment of speech anxiety. *Behavioral Interventions*, 9, 213-223.
- Levis, D. J. (1995). Decoding traumatic memory: Implosive theory of psychopathology. In W. O'Donohue & L. Krasner (Eds.), *Theories of behavior therapy: Exploring behavior change* (pp. 173-207). Washington, DC: American Psychological Association.
- Lipovsky, J. A. (1992). Assessment and treatment of posttraumatic stress disorder in child survivors of sexual assault. In D. W. Foy (Ed.), *Treating PTSD: Cognitive-behavioral strategies* (pp. 127-164). New York: Guilford.
- Litz, B. T., Blake, D. D., Gerardi, R. G., & Keane, T. M. (1990). Decision making guidelines for the use of direct therapeutic exposure in the treatment of post-traumatic stress disorder. *The Behavior Therapist*, 13, 91-93.
- Lyons, J. A. (1987). Posttraumatic stress disorder in children and adolescents: A review of the literature. *Journal of Developmental and Behavioral Pediatrics*, 8, 349-356.
- Lyons, J. A., & Scotti, J. R. (1995). Behavioral treatment of a motor vehicle accident survivor: An illustrative case of direct therapeutic exposure. *Cognitive and Behavioral Practice*, 2, 343-364.
- Macklin, M. L., Metzger, L. J., Lasko, N. B., Berry, N. J., Orr, S. P., & Pitman, R. K. (2000). Five-year follow-up study of eye movement desensitization and reprocessing therapy for combat-related posttraumatic stress disorder. *Comprehensive Psychiatry*, 41, 24-27.
- March, J. S. (1999). Assessment of pediatric posttraumatic stress disorder. In P. A. Saigh & J. D. Bremner (Eds.), *Posttraumatic stress disorder: A comprehensive text* (pp. 199-218). Needham Heights, MA: Allyn & Bacon.
- March, J. S., Amaya-Jackson, L., Murray, M. C., & Schulte, A. (1998). Cognitive-behavioral psychotherapy for children and adolescents with posttraumatic stress disorder after a single-

- (NIMH DISC-IV): Description, differences from previous versions, and reliability of some common diagnoses. *Journal of the American Academy of Child and Adolescent Psychiatry*, 39, 28-38.
- Shalev, A. Y., Bonne, O., & Eth, S. (1996). Treatment of post-traumatic stress disorder: A review. *Psychosomatic medicine*, 58, 165-182.
- Shear, M. K., Feske, U., Brown, C., Clark, D. B., Mammen, O., & Scotti, J. (2000). Anxiety disorders measures. In American Psychiatric Association Task Force for the Handbook of Psychiatric Measures: A. J. Rush, Jr., H. A. Pincus, M. B. First, et al. (Eds.), *Handbook of psychiatric measures* (pp. 549-589). Washington, DC: American Psychiatric Press.
- Smith, E. M., North, C. S., McCool, R. E., & Shea, J. M. (1990). Acute postdisaster psychiatric disorders: Identification of persons at risk. *American Journal of Psychiatry*, 147, 202-206.
- Solomon, S. D., Gerrity, E. T., & Muff, A. M. (1992). Efficacy of treatments for posttraumatic stress disorder: An empirical review. *Journal of the American Medical Association*, 268, 633-638.
- Stern, A. E., Lynch, D. L., Oates, R. K., O'Toole, B. I., & Cooney, G. (1995). Self esteem, depression, behaviour and family functioning in sexually abused children. *Journal of Child Psychology and Psychiatry*, 36, 1077-1089.
- Sternberg, K. J., Lamb, M. E., Greenbaum, C., Cichetti, D., Dawud, S., Cortes, R. M., Krispin, O., & Lorey, F. (1993). Effects of domestic violence on children's behavior problems and depression. *Developmental Psychology*, 29, 44-52.
- Tinker, R. H., & Wilson, S. A. (1999). *Through the eyes of a child: EMDR with children*. New York: W. W. Norton.
- Vernberg, E. M., & Vogel, J. M. (1993). Part 2: Interventions with children after disasters. *Journal of Clinical Child Psychology*, 22, 485-498.
- Vogel, J. M., & Vernberg, E. M. (1993). Part 1: Children's psychological responses to disasters. *Journal of Clinical Child Psychology*, 22, 464-484.
- Walker, L. E. A., & Bolkovatz, M. A. (1988). Play therapy with children who have experienced sexual assault. In L. E. A. Walker (Ed.), *Handbook on sexual abuse of children* (pp. 249-269). New York: Springer.
- Weathers, F. W., Keane, T. M., King, L. A., & King, D. W. (1997). Psychometric theory in the development of posttraumatic stress disorder assessment tools. In J. P. Wilson & T. M. Keane (Eds.), *Assessing psychological trauma and PTSD* (pp. 98-135). New York: Guilford.
- Wilson, S. K., Cameron, S., Jaffe, P., & Wolfe, D. (1989). Children exposed to wife abuse: An intervention model. *Social Casework: The Journal of Contemporary Social Work*, 70, 180-184.
- Wolfe, D. A., & McEachran, A. (1997). Child physical abuse and neglect. In E. J. Mash & L. G. Terdal (Eds.), *Behavioral assessment of childhood disorders* (3rd ed., pp. 523-568). New York: Guilford.
- Wolfe, V. V., & Birt, J. A. (1997). Child sexual abuse. In E. J. Mash & L. G. Terdal (Eds.), *Behavioral assessment of childhood disorders* (3rd ed., pp. 569-623). New York: Guilford.
- Yule, W. (1998). Posttraumatic stress disorder in children and its treatment. In T. W. Miller (Ed.), *Children of trauma: Stressful life events and their effects on children and adolescents* (pp. 219-243). Madison, CT: International Universities Press.

Received May 22, 2000; revised September 22, 2000; accepted October 25, 2000.

- incident stressor. *Journal of the American Academy of Child and Adolescent Psychiatry*, 37, 585–593.
- Marks, I. M., Boulougouris, J., & Marset, P. (1971). Flooding versus desensitization in the treatment of phobic disorders. *British Journal of Psychiatry*, 119, 353–375.
- Marks, I., Lovell, K., Noshirvani, H., Livanou, M., & Thrasher, S. (1998). Treatment of posttraumatic stress disorder by exposure and/or cognitive restructuring. *Archives of General Psychiatry*, 55, 317–325.
- Marmar, C. R., Foy, D., Kagan, B., & Pynoos, R. S. (1994). An integrated approach for treating posttraumatic stress. In R. S. Pynoos (Ed.), *Posttraumatic stress disorder: A clinical review* (pp. 99–132). Lutherville, MD: Sidran Press.
- Marmar, C. R., & Freeman, M. (1988). Brief dynamic psychotherapy of post-traumatic stress disorders: Management of narcissistic regression. *Journal of Traumatic Stress*, 1, 323–337.
- Marshall, R. D., Davidson, J. R. T., & Yehuda, R. (1998). Pharmacotherapy in the treatment of posttraumatic stress disorder and other trauma-related syndromes. In R. Yehuda (Ed.), *Psychological trauma* (pp. 133–177). Washington, DC: American Psychiatric Press.
- McElroy, L. P., & McElroy, R. A. (1989). Psychoanalytically oriented psychotherapy with sexually abused children. *Journal of Mental Health Counseling*, 11, 244–258.
- McLeer, S. V., Deblinger, E., Atkins, M., Foa, E., & Ralphe, D. (1988). Post traumatic stress disorder in sexually abused children: A prospective study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 27, 650–654.
- McLeer, S. V., Dixon, J. F., Henry, D., Ruggiero, K. J., Escovitz, K., Niedda, T., & Scholle, R. (1998). Psychopathology in non-clinically referred sexually abused children. *Journal of the American Academy of Child and Adolescent Psychiatry*, 37, 1326–1333.
- McLeer, S. V., & Ruggiero, K. J. (2000). *Short-term correlates of child sexual abuse: Prevalence of psychiatric symptoms*. Manuscript submitted for publication.
- McNally, R. J. (1991). Assessment of posttraumatic stress disorder in children. *Psychological Assessment*, 3, 531–537.
- Meichenbaum, D. (1974). Self-instructional methods. In F. H. Kanfer & A. P. Goldstein (Eds.), *Helping people change: A textbook of methods* (pp. 357–391). New York: Pergamon.
- Michelson, L., Mavissakalian, M., & Marchione, K. (1985). Cognitive and behavioral treatments of agoraphobia: Clinical, behavioral, and psychophysiological outcomes. *Journal of Consulting and Clinical Psychology*, 53, 913–925.
- Mowrer, O. H. (1947). On the dual nature of learning – A reinterpretation of “conditioning” and “problem-solving.” *Harvard Educational Review*, 17, 102–148.
- Mowrer, O. H. (1960). *Learning theory and behavior*. New York: Wiley.
- Nader, K. O. (1997). Assessing traumatic experiences in children. In J. P. Wilson & T. M. Keane (Eds.), *Assessing psychological trauma and PTSD* (pp. 98–135). New York: Guilford.
- Nader, K. O., Kriegler, J. A., Blake, D. D., Pynoos, R. S., Newman, E., & Weathers, F. (1996). *Clinician Administered PTSD Scale, Child and Adolescent Version (CAPS-C)*. White River Junction, VT: National Center for PTSD.
- Nader, K. O., Pynoos, R. S., Fairbanks, L. A., Al-Ajeel, M., & Al-Asfour, A. (1993). A preliminary study of PTSD and grief among the children of Kuwait following the Gulf crisis. *British Journal of Clinical Psychology*, 32, 407–416.
- Nader, K., Pynoos, R., Fairbanks, L., & Frederick, C. (1990). Children's PTSD reactions one year after a sniper attack at their school. *American Journal of Psychiatry*, 147, 1526–1530.
- Nader, K., Stuber, M., & Pynoos, R. (1991). Posttraumatic stress reactions in preschool children with catastrophic illness: Assessment needs. *Comprehensive Mental Health Care*, 1, 223–239.
- Perrin, S., Smith, P., & Yule, W. (2000). Practitioner review: The assessment and treatment of post-traumatic stress disorder in children and adolescents. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 41, 277–289.
- Pfefferbaum, B. (1997). Posttraumatic stress disorder in children: A review of the past 10 years. *Journal of the American Academy of Child and Adolescent Psychiatry*, 36, 1503–1511.
- Pitman, R. K., Altman, B., Greenwald, E., Longpre, R. E., Macklin, M. L., Poiré, R. E., & Steketee, G. S. (1991). Psychiatric complications during flooding therapy for posttraumatic stress disorder. *Journal of Clinical Psychiatry*, 52, 17–20.
- Pynoos, R. S. (1993). Traumatic stress and developmental psychopathology in children and adolescents. In J. M. Oldham, M. B. Riba, & A. Tasman (Eds.), *The American Psychiatric Press review of psychiatry*, Vol. 12 (pp. 205–238). Washington, DC: American Psychiatric Press.
- Pynoos, R. S., Goenjian, A., & Steinberg, A. M. (1995). Strategies of disaster intervention for children and adolescents. In S. E. Hobfoll & M. W. deVries (Eds.), *Extreme stress and communities: Impact and intervention* (pp. 445–471). Dordrecht, the Netherlands: Kluwer.
- Pynoos, R. S., Goenjian, A., Tashjian, M., Karakashian, M., Manjikian, R., Manoukian, G., Steinberg, A. M., & Fairbanks, L. A. (1993). Post-traumatic stress reactions in children after the 1988 Armenian earthquake. *British Journal of Psychiatry*, 163, 239–247.
- Pynoos, R. S., & Nader, K. (1990). Children's exposure to violence and traumatic death. *Psychiatric Annals*, 20, 334–344.
- Pynoos, R. S., & Nader, K. (1993). Issues in the treatment of posttraumatic stress in children and adolescents. In P. C. Kendall, J. N. Butcher, & G. N. Holmbeck (Eds.), *Handbook of research methods in clinical psychology* (2nd ed., pp. 535–549). New York: Wiley.
- Pynoos, R. S., Steinberg, A. M., & Wraith, R. (1995). A devel-

- opmental model of childhood traumatic stress. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental psychopathology*, Vol. 2: *Risk, disorder, and adaptation* (pp. 72–95). New York: Wiley.
- Reich, W., Shayka, J. J., & Taibleson, C. (1991). *Diagnostic Interview for Children and Adolescents (DICA)*. St. Louis, MO: Washington University.
- Resick, P. A., & Jordan, C. G. (1988). Group stress inoculation training for victims of sexual assault: A therapist manual. In P. A. Keller & S. R. Heyman (Eds.), *Innovations in clinical practice: A source book*, Vol. 7 (pp. 99–111). Sarasota, FL: Professional Resource Exchange.
- Rhue, J. W., & Lynn, S. J. (1991). Storytelling, hypnosis and the treatment of sexually abused children. *International Journal of Clinical and Experimental Hypnosis*, *39*, 198–214.
- Richters, J. E., Martinez, P., & Valla, J. P. (1990). *Levonn: A cartoon-based interview for assessing children's distress syndromes*. Washington, DC: National Institutes of Mental Health.
- Ridley, J. A. (1996). *Treatment of posttraumatic stress disorder in Vietnam veterans, rape survivors, and child incest victims*. Unpublished manuscript, West Virginia University.
- Ridley, J. A. (1997). *Examination of a common conceptual and treatment model for PTSD in Vietnam veterans, rape survivors, and victims of child abuse: A clinician survey*. Unpublished dissertation, West Virginia University, Morgantown.
- Roesler, T. A. (1994). Reactions to disclosure of childhood sexual abuse: The effect on adult symptoms. *Journal of Nervous and Mental Disease*, *182*, 618–624.
- Roje, J. (1995). LA '94 earthquake in the eyes of children: Art therapy with elementary school children who were victims of disaster. *Art Therapy: Journal of the American Art Therapy Association*, *12*, 237–243.
- Rothbaum, B. O. (1997). A controlled study of eye movement desensitization and reprocessing in the treatment of posttraumatic stress disorder sexual assault victims. *Bulletin of the Menninger Clinic*, *61*, 1–18.
- Rothbaum, B. O., Foa, E. B., Riggs, D., Murdock, T., & Walsh, W. (1992). A prospective examination of post-traumatic stress disorder in rape victims. *Journal of Traumatic Stress*, *5*, 455–475.
- Ruggiero, K. J., & McLeer, S. V. (2000). PTSD scale of the Child Behavior Checklist: Concurrent and discriminant validity with non-clinic-referred sexually abused children. *Journal of Traumatic Stress*, *13*, 287–299.
- Ruggiero, K. J., McLeer, S. V., & Dixon, J. F. (2000). Sexual abuse characteristics associated with survivor psychopathology. *Child Abuse and Neglect*, *24*, 951–964.
- Rust, J. O., & Troupe, P. A. (1991). Relationships of treatment of child sexual abuse with school achievement and self-concept. *Journal of Early Adolescence*, *11*, 420–429.
- Rychtarik, R. G., Silverman, W. K., Van Landingham, W. P., & Prue, D. M. (1984a). Further considerations in treating sexual assault victims with implosion. *Behavior Therapy*, *15*, 423–426.
- Rychtarik, R. G., Silverman, W. K., Van Landingham, W. P., & Prue, D. M. (1984b). Treatment of an incest victim with implosive therapy: A case study. *Behavior Therapy*, *15*, 410–420.
- Saigh, P. A. (1986). In vitro flooding in the treatment of a 6-year-old boy's posttraumatic stress disorder. *Behaviour Research and Therapy*, *24*, 685–688.
- Saigh, P. A. (1987a). In vitro flooding of an adolescent's posttraumatic stress disorder. *Journal of Clinical Child Psychology*, *16*, 147–150.
- Saigh, P. A. (1987b). In vitro flooding of childhood posttraumatic stress disorder. *School Psychology Review*, *16*, 203–211.
- Saigh, P. A. (1987c). In vitro flooding of childhood posttraumatic stress disorders: A systematic replication. *Professional School Psychology*, *2*, 135–146.
- Saigh, P. A. (1989). The use of an in vitro flooding package in the treatment of traumatized adolescents. *Developmental and Behavioral Pediatrics*, *10*, 17–21.
- Saigh, P. A. (1992). The behavioral treatment of child and adolescent posttraumatic stress disorder. *Advances in Behaviour Research and Therapy*, *14*, 247–275.
- Saigh, P. A. (1997). *The Children's Posttraumatic Stress Disorder Inventory*. New York: City University of New York Graduate School.
- Saigh, P. A., Yasik, A. E., Oberfield, R. A., Green, B. L., Halamandaris, P. V., Rubenstein, H., Nester, J., Resko, J., Hetz, B., & McHugh, M. (2000). The Children's PTSD Inventory: Development and Reliability. *Journal of Traumatic Stress*, *13*, 369–380.
- Saigh, P. A., Yasik, A. E., Oberfield, R. A., & Inamdar, S. C. (1999). Behavioral treatment of child-adolescent posttraumatic stress disorder. In P. A. Saigh & J. D. Bremner (Eds.), *Posttraumatic stress disorder: A comprehensive text* (pp. 354–375). Boston: Allyn & Bacon.
- Saigh, P. A., Yule, W., & Inamdar, S. C. (1996). Imaginal flooding of traumatized children and adolescents. *Journal of School Psychology*, *34*, 163–183.
- Scheeringa, M. S., Zeanah, C. H., Drell, M. J., & Larrieu, J. A. (1995). Two approaches to diagnosing post-traumatic stress disorder in infancy and early childhood. *Journal of the American Academy of Child and Adolescent Psychiatry*, *34*, 191–200.
- Scotti, J. R., Beach, B. K., Northrop, L. M. E., Rode, C. A., & Forsyth, J. P. (1995). The psychological impact of accidental injury: A conceptual model for clinicians and researchers. In J. R. Freedy & S. E. Hobfoll (Eds.), *Traumatic stress: From theory to practice* (pp. 181–212). New York: Plenum.
- Shaffer, D., Fisher, P., Lucas, C. P., & Dulcan, M. K. (2000). NIMH Diagnostic Interview for Children Version IV