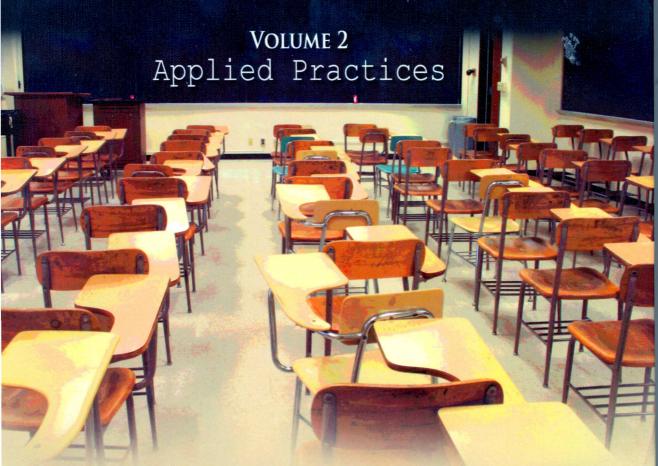


EDUCATIONAL POLICY AND PRACTICE

The Good, the Bad and the Pseudoscience



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Chapter 1

WORKING WITH CHILDREN IN SCHOOLS AFTER TRAUMATIC EVENTS

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Over the last 25 years, as news media outlets have proliferated and information takes increasingly less time to travel around the world, people have been bombarded with images and reports of traumatic events taking place in and around schools. While most of our minds immediately turn to man-made traumas such as the Bath School bombing, the Jonesboro shootings, or the Columbine massacre; natural disasters such as earthquakes, tornadoes, and hurricanes can cause reactions that are equally impairing for children (Lack & Sullivan, 2008; Pynoos, 1994). In the media, however, the focus is almost exclusively on immediate, short-term reactions, with little reporting on the long-term impact of a disaster. Unfortunately, this is also the case in most school-based interventions, with a strong response immediately post-disaster followed by a lack of preparation for and the ability to deal with the potential psychological, emotional, and behavioral disturbances seen in a significant minority of students after a disaster (Jaycox, Tanielian et al., 2007).

The most common difficulty experienced by children after a disaster or trauma is some form of anxiety, with posttraumatic stress symptoms being the most common type (Bland et al., 2005; March, 1999). Related impairments in social and academic functioning, as well as other mental health impairments such as depression and substance use (Kilpatrick et al., 2003), are also frequently seen. Of special note to educators, trauma exposure has been found to be related to cognitive impairments (Beers & DeBellis, 2002), lowered grades, increased school absences (Hurt et al., 2001), and lowered graduation rates (Delaney-Black et al., 2003). In addition, posttraumatic stress symptoms include many school-impairing difficulties, such as problems concentrating, sleep disturbance, and disorganized behavior (American Psychiatric Association, 2000).

Interventions that take place within a school system after traumatic events are needed for several reasons. First, schools are uniquely situated to deliver mental health services quickly and effectively given their ease of access to the population and a lack of stigma surrounding

children receiving services in schools (Evans & Weist, 2004). Second, especially in rural and low-income areas, there may be little or no access to any services aside from those provided by the school (U.S. Public Health Service, 2000). Research has found that children referred for mental health problems to a school-based program rather than a community-based program receive services at much higher rates (99% vs. 17%; McInerney, Kane & Pelavin, 1992). Indeed, surveys after natural disasters indicate that, of the small numbers of students in trauma-impacted locations to receive mental health services, a majority are received via the school system (Lack, 2008). Third, given the above-mentioned problems seen in academic setting, providing mental health services after a trauma could prevent numerous other difficulties for at-risk students, thereby reducing problems seen in the classroom (Chemtob, Nakashima & Hamada, 2002). However, it is crucial to have *evidence-based* rather than pseudoscientific interventions in place within school systems to assist students in the aftermath of trauma for several reasons.

PSEUDOSCIENTIFIC TRAUMA-FOCUSED TREATMENTS

Evidence-based treatment refers to assessment and intervention practices that have been found, through carefully controlled scientific study, to be both valid and reliable for identifying and alleviating mental health disturbances. Later in this chapter, a number of evidence-based assessment and treatment methods for use in schools will be discussed. Pseudoscientific services, on the other hand, are defined as "unsubstantiated, untested, and otherwise questionable treatment and assessment methods" (Lilienfeld, Lynn & Lohr, 2003, p. 2). Given the preponderance of pseudoscience treatments for trauma, it is important to carefully evaluate potential programs to be implemented in the schools, whether they will take place at the curricular, group, or individual level.

Despite the enormously strong evidence base supporting the use of cognitive and behavioral techniques for treating posttraumatic stress (Amaya-Jackson et al., 2003), there are nonetheless many proponents of other, non-evidenced-based therapies that either have no research support or support against their use. Four of the most widespread pseudoscientific treatments are critical incident stress management, eye movement desensitization and retraining, emotional freedom technique, and thought field therapy.

More widely known as "psychological debriefing," critical incident stress management (CISM; Mitchell & Everly, 1998) developed in the early 1980s and, unlike the other interventions described in this section, was focused on the prevention of PTSD symptoms, rather than their treatment. CISM is based on the assumptions that 1) trauma exposure alone is enough to cause a person to experience long-term psychological difficulties and 2) early interventions can prevent such problems from developing. But, in reality, carefully controlled studies have found that the vast majority of people will recover without any interventions after a trauma, showing little to no distress at three months post-trauma (e.g., Riggs, Rothbaum & Foa, 1995; Ehlers, Mayou & Bryant, 1998). In addition, numerous scientific studies have found that receiving CISM appears to actually *increase* the chance someone will develop PTSD symptoms (see McNally, Bryant & Ehlers, 2003 for a review). All evidence supporting the use of CISM is based on anecdotal reports and is primarily published by the originator of the method, J.T. Mitchell. Based on the at best inert effects and at worst harmful

impact of CISM, numerous organizations, including the World Health Organization and British Health Service, have actively implemented policies against its use. In short, "Although psychological debriefing is widely used throughout the world to prevent PTSD, there is no convincing evidence that it does so" (McNally, Bryant & Ehlers, 2003, p. 72).

Eve movement desensitization and reprocessing (EMDR) is one of the most heavily promoted and commercialized pseudoscientific psychological treatments of the last 20 years (Lohr, Hooke, Gist & Tolin, 2003). Huge numbers of clinicians have reportedly been trained to use it for treating persons with PTSD, and the American Psychiatric Association (APA) has stated "EMDR appears to be effective in ameliorating symptoms of both acute and chronic PTSD" (Work Group on ASD and PTSD, 2004, p. 59). This statement is advertised on the EMDR Institute's homepage (http://www.emdr.org), but the page omits the other, less favorable conclusions of the APA's review of research on EMDR, which states that "Despite the demonstrable efficacy of EMDR, these studies call into question EMDR's theoretical rationale" (Work Group on ASD and PTSD, 2004, p. 59). Specifically, many researchers and theorists see EMDR as an example of a "Purple Hat Therapy" (Rosen & Davison, 2003), where the active ingredients causing change are use of cognitive-behavioral therapy techniques such as exposure and not the use of eye movements, which are a key component of the EMDR treatment package (Shapiro, 1995). Indeed, based on a systematic review of the research, McNally (1999) concluded that "What is effective in EMDR is not new, and what is new is not effective" (p. 619).

Thought field therapy (TFT) is a treatment based on traditional Chinese medicine, relying on the idea that invisible energy fields, or "thought fields," surround the body (Guadino & Herbert, 2000). By physically tapping on places in the body where these fields intersect one can supposedly modify these thought fields and cause a decrease in negative emotions, similar to how acupuncture supposedly relieves physical pain (Callahan & Callahan, 1996). As with acupuncture, however, there is no scientific support for this theory and no sound outcome research supporting the efficacy of TFT for treating any emotional disorder, despite the claims of TFT's proponents (Gaudiano & Herbert, 2000; Hooke, 1998). This goes doubly so for emotional freedom technique (EFT; Craig, 1997), which evolved from TFT and presents itself as even more comprehensive, even with no research to support its claims (Waite & Holder, 2003). Due to the lack of being able to falsify these claims, a reliance on anecdotal evidence, and claims of miraculous success (such as those on the websites of the World Center for EFT - "The surprising natural healing aid you can use for almost everything" - and Callahan Technique's "...balancing the body's energy system and allowing you to eliminate most negative emotions within minutes."), there is no reason to believe these therapies are anything other than pseudoscience.

SUMMARY AND CONCLUSIONS

Given the number of persons trained in and endorsing the use of techniques such as EMDR, CISM, and TFT/EFT, it behooves school officials to educate themselves on the use of empirically-supported and evidence-based assessment and treatment techniques for children experiencing behavioral and emotional difficulties after a traumatic event. The remainder of this chapter will explore such techniques, first focusing on the identification of

children who are in need of services, including commonly seen symptoms and instruments to assess those symptoms. This will be followed by a review of five school-based programs with evidence supporting their effectiveness and efficacy in alleviating posttraumatic stress symptoms.

Identification of Children in Need of Services after a Trauma

In order to deliver services shown to effectively treat posttraumatic stress symptoms (PTSS), schools must first identify those students in need of them. While certain programs are designed to be delivered to all students in a school system (such as Classroom-Based Intervention and Overshadowing the Threat of Terrorism, see below), most target only those students with active PTSS. Two aspects are key in being able to implement such interventions: 1) being aware of what symptoms, both expected and unexpected, are commonly seen in youth after a traumatic event; and 2) using empirically sound assessment methods for those symptoms.

As reported in several sources, the most common *short-term* problems include sleeping problems, such as refusing to go to sleep or having disturbing dreams, repetitive play representing part of the trauma, conduct problems, fearing another trauma will occur shortly, hyperarousal, avoidance and withdrawal from things that will remind them of the disaster, and somatic problems such as head and stomach aches (Ehrenreich, 1999). These are very normal reactions that can be expected to be seen multiple weeks after the traumatic event and should not be seen as pathological or needing intervention other than understanding and support. If, however, children are displaying these symptoms and others discussed below three to four months post-trauma, then further assessment to see if they are experiencing a reaction of unexpected severity is needed.

Posttraumatic Symptoms in Youth

Posttraumatic stress disorder (PTSD) has been defined in the Diagnostic and Statistical Manual of Mental Disorders (APA, 2000) as a "cluster of symptoms which develop in the aftermath of exposure to an extremely traumatic episode or event." Diagnostically, there are specific criteria which can help a clinician determine if a child is experiencing PTSD. It is, however, important to keep in mind that even those children who do not meet full criteria for PTSD may still be displaying posttraumatic stress symptoms of a sub-clinical level that are impacting their functioning (Ehrenreich, 1999), and the interventions described below can alleviate those as well.

The first criterion that must be met is experiencing a traumatic event, defined as experienced or witnessed actual death or severe injury or the threat thereof. The second criterion addresses the individual's response to the event, which must have instilled a sense of fear, helplessness, or horror. In younger children, however, their responses may take on an entirely different perspective, responding with behavioral problems, particularly disorganized or agitated behavior. After the trauma exposure and response to the event itself, there are three primary symptoms clusters seen in children experiencing PTSD: re-experiencing, avoidance/numbing, and increased arousal.

In young children, re-experiencing often takes the form of repetitive play containing themes or aspects of the trauma or re-occurring frightening dreams that the child may or may not relate to the trauma experienced. As it is often difficult for younger children to describe symptoms of PTSD, especially lack of interest in dominant activities, it is crucial that the clinician gathers information from parental care-takers and other observers espoused in the child's life, such as teachers. Finally, children's fears may over time become disassociated to a particular situation and instead become highly generalized to everyday events (Terr, 1979).

Someone with a formal diagnosis of PTSD must also experience three symptoms from the avoidance/numbing cluster. Avoidance symptoms include avoiding thoughts, feelings, or talking about the trauma; avoiding people, places, or activities that may invoke memories of the trauma; and an inability to remember important features of the trauma. Numbing symptoms include losing interest in participation of activities once enjoyed; feeling detached from others; displaying a flattened affect; and experiencing a sense of a shortened future.

Finally, there must be two symptoms of increased arousal present that were not experienced prior to the trauma. These can include difficulty falling or staying asleep, increased irritability or anger outbursts, problems with concentration, hypervigilance, and an increased startle response. As mentioned before, the symptoms from each category must be present for at least one month and be causing significant impairment in an important area of functioning (APA, 1994). There are a number of other symptoms associated with PTSD in children that are not required for a formal diagnosis. The most common symptoms include frequent somatic complaints, omen formation, survival guilt, generalized anxiety, and depressive symptoms. Omen formation is where the child feels as if she can predict other disturbing or frightening future events.

Developmental Differences in PTSS

Children's reactions to an emotionally disturbing event in their lives can depend on a variety of factors: stage of development or maturity at the time of disaster, the complexity of the threat, the specific sacrifice of family members or close friends, the child's ability to cope, and the history of traumatic events in the child's life (Clark & Miller, 1998). In addition, a child's proximity to the trauma and parental responses could influence a child's predisposition for PTSD symptoms. While the child's viewpoint of the disaster is certainly a critical focus, it is important to take into consideration the entire scope of the event in relationship to the child. Parental reactions to a catastrophic situation may further influence or even confuse a child's interpretation of the drama. A child may witness emotional responses that they do not understand in others, as well as inside themselves in the "fight or flight" response of our bodies to danger and stress.

Pre-school children may have difficulty describing symptoms due to their absence of an appropriate vocabulary, but they can express themselves in nonverbal manners in order to help a clinician make a correct diagnosis. Behaviors such as acting out or clinging may be a key feature in determining if PTSD symptoms are present. If a child was involved in a car accident, he or she may repeatedly play with small cars, making them crash into each other. Such acting out and demonstrations of the trauma using toys represents the internal trauma that the child is experiencing (Yule, 2001). Nightmares can also be part of the externalizing process for the pre-school age child. The stereotypical dreams may manifest monsters,

renewed rescue efforts, or may display self-threatening topics. The inability to verbalize stress in very young children often results in physiological replacement symptoms, such as stomachaches or headaches, which can be a cause of underreporting (Cook-Cottone, 2000).

While verbal expertise is developing in school-age children, PTSD symptoms can still be displayed primarily through overt behaviors, with the addition of regressions or losing skills previously acquired, such as bedwetting, attachment issues, and school refusal (Terr, Bloch, Michel, Shi, Reinhardt & Metayer, 1999). Unsocial behavior, in the form of peer arguments, withdrawal from immediate friends, declining study skills with little or no focus, and poor emotional regulation, can also be observed (Cook-Cottone, 2000; Yule, 2001). Reenactment of stressful events in a child's life may emerge in repetitive dramas rather than flash-backs (Scheeringa & Zeanah, 2001).

Older children, late middle-school and above, may be dismissive and try to avoid all stimuli associated with the traumatic event. They may also overreact to fire alarms or sirens signifying severe weather because their startle response is oversensitive (March, Amaya-Jackson & Pynoos, 1994). Risk-taking behavior may also be observed, but it is usually a temporary situation and not a long-term change. Potentially, the more interaction a child has with their environment, the more likely they are to encounter some type of stressful threat. For adolescents who are increasingly exploring new environments, experiencing a traumatic event may "be particularly devastating and life altering, as it can serve to disrupt the trajectory of positive growth and sever the opportunity of integrating past experiences with future expectations" (Pynoos, 1994, p. 74). As children get older, their symptoms become increasingly similar to adult PTSD. They have experienced various life situations and are able to cognitively process the trauma accordingly (Cohen, Berliner & Mannarino, 2000).

Evidence-based Assessments for PTSD

As demonstrated above, accurately identifying PTSD in child and adolescent populations is challenging due to: (a) the broad spectrum of symptoms (externalizing or internalizing) that this population can show following trauma or crisis, (b) the tendency for children to move through emotional states at a faster rate and in a more labile fashion than adults, (c) developmental differences and considerations, and (d) issues relating to children and adolescents not being independently in control of their interpersonal environments and caretakers. This creates a variety of assessment challenges relating to the difficulty and complexity of interviewing children and their guardians to establish a valid symptom picture (Cohen & Scheering, 2009; Lonigan, Phillips & Richey, 2003). However, in keeping with the empirically based philosophy and approach, it is important to have timely and valid methods to differentially identify children that are in need of treatment for posttraumatic stress symptoms. Below are descriptions of valid, reliable interviews and measures most commonly used with youth.

Structured Clinical Interviews.

There is a long historical tradition of using clinical interviews as a means of gathering diagnostic information. Structured interviews are particularly useful in this regard as they focus on certain types of symptom information within specific populations. They do, however, rely on one-on-one interactions with children and are more well-suited for use on

only those individuals identified as "at-risk" for problematic symptoms after administration of self- or other-report instruments (described in the next section).

Clinician-Administered PTSD Scale for Children and Adolescents (CAPS-CA)

The CAPS-CA (Nader et al., 1996) measures the frequency and intensity of the 17 symptoms that are associated with PTSD according to the DSM-IV. The instrument has been modified from the Clinician-Administered PTSD Scale, designed for use with adult populations. It contains 33 items and can be used with youths between the ages of 8 to 18 years. It is also designed to identify the impact of symptoms on general functioning, coping skills, and degree of impairment. It takes 30-60 minutes to administer and slightly less to score. It has been reported to be ideal for research settings, but may be somewhat cumbersome for routine clinical practice. This could be a limiting factor in post-trauma assessments involving large student populations where timely identification and intervention is deemed important. However, it has strong psychometric properties, and could be used to provide more specific diagnostic information after individuals in need of treatment have been preliminarily identified. Training in the administration of the CAPS-CA can be done via an ordered technical manual or CD-ROM from Western Psychological Publishing (www.wspublish.com).

Kiddie Schedule for Affective Disorders and Schizophrenia for School-Aged Children (K-SADS-PL)

This semi-structured interview is designed to assess various types of psychopathology in children and adolescents from 7 – 17 years of age (Kaufman et al., 1997). It includes a present and life-time diagnosis of PTSD as one of its 32 scales. It requires intensive clinical training to use and requires approximately 45 minutes in administration time. Like the CAPS-CA, it has the disadvantage of being somewhat cumbersome and time consuming within the school setting for broad screening purposes, but can be used as a follow-up instrument if PTSD or severe posttraumatic stress symptoms are indicated by self or parent report. It does provide specific, and wide-ranging, clinical information however. Further information on the K-SADS-PL, including a downloadable copy of the form and instructions for administration, are available online (www.wpic.pitt.edu/ksads/default.htm).

Self-Report General Measures

Unlike the above interviews, these assessment instruments provide diagnostic and symptom data based upon *subject* responses to a paper and pencil format that have been psychometrically validated via normative group comparison. Those listed in this section are not specifically designed to measure PTSD in children (those are presented below); however, they can still be useful in the assessment process, as children's mental health difficulties post-trauma are not limited to posttraumatic stress symptoms and can include depression, generalized anxiety, behavioral disturbances, and academic problems.

Behavior Assessment System for Children Second Edition (BASC-2)

The BASC-2 (Reynolds & Kamphaus, 2004) is a comprehensive set of rating scales that includes the Self-Report of Personality, which can be used for children aged 6-18 years and takes approximately 30 minutes to administer. It is a psychometrically sound

multidimensional assessment instrument that can be computer scored for increased reliability. It provides diagnostic information in numerous areas such as attitude to school, attitude to teachers, aggression, depression, anxiety, somatic complaints, attention, hyperactivity, atypical thought patterns, withdrawal, and introversion, all based upon the DSM-IV classification system. It also covers various aspects of the child's adaptive behaviors (adaptability, relations with parents, self-esteem, and self-reliance) that can be used to good advantage in clinical interventions. While it does not specifically target PTSD, the BASC-2 SRP does contain items that correlate well with other commonly seen problems after a trauma, providing diagnostic information that covers a wider spectrum of symptoms than those specific to PTSD. This can help identify students that might have been affected by a significant event, but are displaying symptoms that would better fit the criteria for, as an example, Adjustment Disorder. Training manuals, forms, and scoring software are available from Pearson Assessments (http://www.pearsonassessments.com/pai/).

Child Behavior Checklist (CBCL)

The CBCL (Achenbach & Rescorla, 2001) is another widely used general measure for assessing symptoms in child and adolescent populations ages 6-18. Part of the comprehensive Achenbach System of Empirically Based Assessment, there is a youth self-report form available that takes approximately 15 minutes to administer. Similar to the BASC-2, although PTSD is not specifically targeted, the instrument does provide information related to the DSM-IV classification system and possible comorbid difficulties children could experience after a disaster. It has strong psychometric properties and can be administered in a one-on-one or group setting. Information on manuals, forms, and scoring is available online at www.ASEBA.org.

PTSD Specific Assessment Instruments

In contrast to the general child and adolescent assessment instruments mentioned above, the instruments that follow are the most commonly used diagnostic pencil and paper devices that specifically target PTSD symptoms. Also unlike the more general instruments, the majority of these are non-published instruments, available for free from the developers.

Child PTSD Symptom Scale (CPSS)

The CPSS (Foa, Johnson, Feeny & Treadwell, 2001) is a self-report scale consisting of 17 items that can be used with children between the ages of 8-18. It is rapidly administered and specifically designed for children, but is lacking comprehensive psychometric validation at this time. However, those studies that have used it have found strong properties for it in the original English and various translations (e.g., Spanish, Korean). It is available at no cost from the developers by emailing Dr. Edna Foa (foa@mail.med.upenn.edu).

UCLA PTSD Reaction Index (UCLA-PTSD RI)

One of the most widely used measures in childhood PTSD research (Balaban, 2009), the current version of the RI (Steinberg, Brymer, Decker & Pynoos, 2004) assesses symptoms in children between 6-17 years of age. It contains 20 items and can be administered in 15-20 minutes. It and its predecessors have very strong psychometric properties (Lack, Sullivan & Knight, 2008) and are designed to be used with childhood populations after emergencies and

disasters. There are three versions available: Child, Adolescent, and Parent report scales. It has the advantages of being quick to administer and easy to score. It is available to interested parties at no cost from the developers by contacting Dr. Robert Pynoos (rpynoos@nednet.ucla.edu).

Posttraumatic Stress Symptoms in Children (PTSS-C)

Designed to be easy to administer, the PTSS-C (Ahmad, von Knorring & Sundelin-Wahlsten, 2008) takes approximately 30 minutes to complete and is comprised of 30 yes-no items. It is specifically intended to assess PTSD symptoms in post-chaotic trauma contexts. It measures not only specific DSM-IV criteria, but also assesses for child specific posttraumatic responses such as guilt and hyperactivity. It is a new instrument with good psychometric properties according to preliminary reports, but could profit from more data in that regard. This assessment instrument is available free from the developers by emailing Dr. Ahmad (abdulbaghi.ahmad@bupinst.uu.se).

Parent/Teacher Report Measures

This type of assessment relies on reports from significant adult observers and caretakers to identify children in need of psychological services. They can be effectively used in combination with self-reports scales to provide diagnostic information that is potentially more valid than individual responses alone. Also, these reports are crucial for the assessment of children who are too young to accurately complete self-reports, generally those younger than 8 years old.

BASC-2 Parent and Teacher Report Scale

Part of the BASC-2 system described previously, the Parent Report Scale (PRS) and Teacher Report Scale (TRS) depend upon parent and teacher observations for diagnostic information on children 6-18 years of age. These pencil and paper instruments require 20-30 minutes to complete and generate multi-scale analysis across clinical and adaptive aspects of the subject's observed behaviors. Like the BASC-2 SRP, they do not specifically target PTSD symptoms; however, they do provide diagnostic suggestions based on a wide variety of DSM-1V categories. They are psychometrically strong and are in wide use nationally. The administration of all three scales (self-report, teacher report, and parent report) results in a comprehensive symptom profile for the clinician, but can also be time-consuming.

CBCL Teacher and Parent Report Forms

The CBCL assessment system can also be used to obtain the perspectives of teachers and parents concerning children that have experienced trauma or crisis events that can be compared to the Youth Self-Report Form previously described. The CBCL utilizes a Likert scale format and contains 140 items. It generates a report on the constructs of aggression, hyperactivity, bullying, conduct problems, defiance, and violence. Like the BASC-2 other-reports, it doesn't target PTSD specifically, but has many items that correlate well.

The Process of Identification and Referral for Services

Below is a model that can be used by schools to guide preparations before and after a disaster to address student trauma. The authors adapted this model based on information

provided by the American Academy of Experts in Traumatic Stress (Lerner, Lindell & Volpe, 2003) and the Los Angeles Unified School District (Wong, Colwell, Evans, Lieberman & Rubin, 2006) about their response to traumatic events. The proposed format can be used in addressing trauma that affects large numbers of students and staff as well as crisis events that impact single individuals. Please refer to Figure 1 for an overview.

It is important that schools be prepared *in advance* to deal with trauma situations and that the flow of information be well defined and understood by the entire system. In order to make this happen, having a formal crisis response team that serves the role of gathering and distributing information is advised. This is an on-campus team composed of the building principal (who reports decisions and actions to the superintendent), the school psychologist (if available), the school counselors, and the special education director (if the student or students are on Individualized Education Plans).

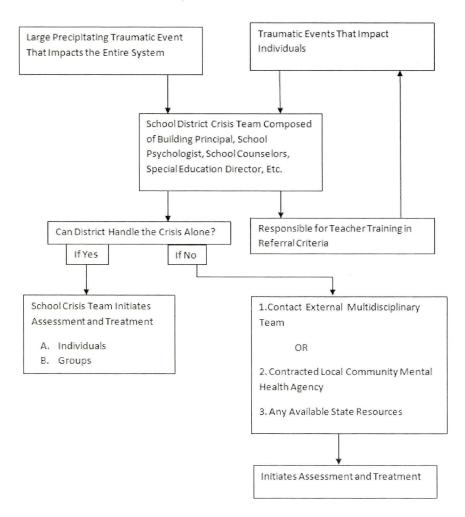


Figure 1. Traumatic Event Intervention Flow Chart.

Also included are the school nurse, on-campus police, those in charge of securing the school site, cafeteria manager, main entrance manager, and school secretary. The team's duties include:

- 1) Development of a specific response plan that includes who is to be in charge if a crisis occurs (usually the principal).
- 2) Coordination of all crisis team activity, i.e. the selection of a team leader.
- 3) Analyzing the extent of the trauma and providing assessment and counseling at the appropriate level and context.
- 4) Conducting triage and medical interventions.
- 5) Securing the campus and crime scene.
- 6) Informing parents of situation.
- 7) Providing food outside of regular schedules as appropriate.
- 8) Educating teachers to produce a staff that is sensitive to the symptomatic warning signs of stress and trauma. It is likely that many of the referrals concerning individual students traumatized by factors unique to their situation will come via teacher observation. In-service training and education is invaluable in such a process. It should include information about the type of events that precipitate trauma reactions, the symptom constellation associated with trauma, and how to best interact with students that have been traumatized.
- 9) Deciding if external help and resources are required to deal with the event.
- 10) Establishing a multidisciplinary team that is external to the school system to help with treatment if this seems advisable. Such a team can usually be recruited from the larger community in the form of volunteers and can include psychologists, counselors, medical doctors, nurses, etc. that have experience in crisis situations. In lieu of such a team, some districts decide to contract with local mental health agencies to provide services in the event of wide sweeping trauma within the school.

In summary, school districts are well advised to have well developed and thoughtfully devised programs permanently in place to deal with traumatic events before they occur. Responding after the fact usually results in uncoordinated efforts that fall short of the mark.

Evidence-Based Interventions for Use in Schools

Once a child or group of children have been identified as in need of intervention by the school system, decisions need to be made about the level at which to intervene. The possible levels of intervention are 1) curricular or school-wide; 2) those 15% students identified as being "at-risk;" and 3) those 5% of students with identified posttraumatic stress symptoms (Jaycox, Stein, Amaya-Jackson & Morse, 2007). In addition to the ones described below, there are two other first-level interventions that focus on the whole school system, the School Interaction Project and Better Todays, Better Tomorrows for Children's Mental Health, but neither have been evaluated empirically (Jaycox, Stein, et al., 2007). The majority of school-based programs supported by empirical evidence are second level interventions, while third level interventions are primarily focused on individual treatment (see Cohen, Mannarion, Deblinger & Berliner, 2009 for a review of empirically supported practices for individual treatment of children and adolescents). While the area of trauma-focused treatment in schools is a relatively new topic of research, the five programs reviewed below have strong evidence to support their efficacy and effectiveness in school settings (Foa, 2009).

Multimodality Trauma Treatment (MMTT)

MMTT is designed to be used with children ages 9-18 that have been exposed to a variety of traumas, including but not limited to disasters and violence (March, Amaya-Jackson, Murray & Schulte, 1998). Treatment is delivered in 16 total sessions, including an individual assessment session prior to start of 14 weekly group therapy sessions and one individual session midway through the treatment protocol. As with CBITS (see below), recommended group size is between 6-8 members. The MMTT protocol can be delivered by mental health clinicians with at least a master's degree who have training in using cognitive-behavioral therapies with traumatized populations, and school counselors are encouraged to actively participate in the groups by being a co-leader. Intensive training in the model followed by supervision from trainers for 4-6 months is recommended for those leading the groups. Major components of the treatment include psychoeducation about typical reactions to disasters, anxiety management training, cognitive restructuring, anger and grief coping skills, and exposure with response prevention. Research has supported that MMTT is useful in reducing PTSD, depressive, and anxiety symptoms in multiple studies in both outpatient (Amaya-Jackson et al., 2003; March et al., 1998) and inpatient settings (Micheal, Hill, Hudson & Furr, 2002). Based on these projects, MMTT was designated as "supported and acceptable" by the National Child Traumatic Stress Network (NCTSN; de Arellano, Ko, Danielson & Sprague, 2008).

The precursor to many of the other programs discussed in this chapter, MMTT has been used in numerous school settings, urban and rural, with a diverse range of students from all levels of SES and ethnic backgrounds. The materials have been translated into both Spanish and French, and the treatment has been used in multiple countries outside the United States. Unlike some other programs, MMTT was designed to work exclusively with students and has no family treatment or education components. This is both a strength, as it may avoid difficulties in having family members actively participate in treatment, and a weakness, as some studies have found increased level of family involvement in treatment predictive of outcome (e.g., Wood, Piancentini, Southam-Gerow, Chu & Sigman, 2006).

Cognitive-Behavioral Intervention for Trauma in Schools (CBITS)

CBITS is a brief treatment developed for use with students between 10-15 years old after a wide range of traumatic events (Jaycox, 2003). A second-level intervention, students are referred to this program after initial administration of a brief screening that identifies them as having elevated posttraumatic stress symptoms is confirmed via an individual meeting with a mental health clinician. It includes 10 group sessions (with 6-8 children per group), 1-3 individual sessions, two parent sessions, and one teacher education session focusing on alleviation of symptoms of posttraumatic stress as well as depression and anxiety. Designed to be delivered by mental health clinicians after a participating in an intensive two day training, CBITS includes psychoeducation about typical reactions to trauma, relaxation training, cognitive restructuring, exposure therapy, and problem-solving training. Research examining the impact of CBITS has shown decreases in posttraumatic stress symptoms and behavioral problems in both quasi-experimental (Kataoka et al., 2003) and randomized controlled studies (Stein et al., 2003). Based on these studies, the NCTSN endorses CBITS as a "supported and probably efficacious" treatment (de Arellano et al., 2008).

A major strength of CBITS is that it was designed for use with a multicultural population and the materials are available in both English and Spanish versions. In addition, it has been used with children of varying acculturation levels, including newly immigrated youth, and in varying countries outside the United States, such as Australia, Germany, and Japan. Also, a recent pilot study has adapted CBITS for delivery by educators in a program called Support for Students Exposed to Trauma (SSET). Results showed reductions in trauma symptoms and teacher-reported behavior improvements, but not to the degree seen in CBITS (Jaycox et al., 2009).

UCLA Trauma/Grief Program (TGP)

The UCLA TGP is the final treatment discussed in this chapter that is designed to address a wide range of traumatic events, and was originally developed for use with 11-18 year olds, but can be adapted downward (Layne, Pynoos & Cardenas, 2001). In addition to trauma symptoms, this program also attempts to alleviate aggression, risk-taking, and other antisocial behaviors. Like the two programs above, TGP is based on principles of cognitive and behavioral therapies, but unlike them can be delivered to students either individually or in a group. Following two days of training, mental health clinicians can then deliver this protocol under supervision and/or with consultation with experienced clinicians.

The length of this modular program varies between 10-24 sessions, depending upon the specific needs of the student(s) in treatment. Module I (Group cohesion, psychoeducation, and basic coping skills) usually consists of six sessions and focuses on psychoeducation, learning coping skills, and cognitive restructuring. Module II (Working through traumatic experiences) is between 8-12 sessions and is focused on exposure with response prevention and cognitive restructuring. Module III (Coping with traumatic loss and grief) is eight sessions focused on grief reactions, including anger and guilt, guided imagery, and relapse prevention. Module IV (Re-focusing on the present and looking to the future) is four sessions focuses on problem-solving skills and termination of treatment. Research examining TGP has found improvements in posttraumatic stress symptoms, depression, and improved grades in children exposed to community violence (Saltzman, Pynoos, Layne, Steinberg & Aisenberg, 2001), postwar Bosnia (Layne et al., 2001), and earthquakes in Aremenia (Goenjian et al., 2005). As such, TGP is designated as "supported and acceptable" by the NCTSN (de Arellano, Ko, Danielson & Sprague, 2008).

Classroom-Based Intervention Program (CBI)

CBI (Macy, Bary & Noam, 2003) is classroom-based first-level intervention delivered to all students in schools impacted by a natural disaster or terrorism. The primary purposes of CBI are fourfold: stabilize traumatic responses, aid transition back to normal school activities and routines, coping more efficiently with trauma experiences, and create a safe environment to express reactions to traumatic events. It is delivered three times a week for five weeks for a total of 15 sessions, with training and manuals for the program available from the developers. Research has found improvements in communication and peer relationships, as well as maintenance of daily functioning, for younger children (4-11 years old) and adolescent females, but not adolescent males, following conflicts on the West Bank (Kamis, Macy & Coignez, 2004) and decreases in posttraumatic symptoms following political violence in Indonesia (Tol et al., 2008). The nonprofit organization Save the Children has adapted the CBI for use after hurricanes, but no evaluation of this program has occurred.

Overshadowing Threat of Terrorism (OTT)

OTT (Berger, Pat-Horencyzk & Gelkoph, 2007) is another classroom-based first level intervention, but one designed to help children cope specifically with exposure to and the threat of terrorism. Designed by Israel Trauma Center for the Victims of Terror and War, OTT "provides psychoeducational material and skill training with meditative practices, bioenergy exercises, art therapy, and narrative techniques for reprocessing traumatic experiences" (Berger et al., 2007, pp. 545-546). After receiving 20 hours of training in the program, classroom teachers then led eight sessions lasting 90 minutes, with two additional psychoeducational sessions for parents only. In the only published study to date, students in Hadera, Israel showed reduced posttraumatic stress, anxiety, and somatic symptoms compared to waitlist controls over a two-month period (Berger et al., 2007). Younger children and boys benefited the most from the program, although older children and females still showed substantial improvements.

CONCLUSION

As can be seen from the above review, there is no shortage of possible programs and treatments that school administrators, counselors, psychologists, and teachers can choose to implement after a traumatic event. However, care must be exercised to choose those programs most likely to be beneficial to students. Making an evidence-based decision means relying on data obtained from controlled research, rather than anecdotes and popularity. Those methods that both do and do not have clear evidence supporting their use have been reviewed above, as well as a brief presentation of a model to follow post-trauma. Using the empirically supported programs described here provides the current best means to help head off or alleviate posttraumatic stress in students, but new methods are certain to be developed in the future. Examination of these new methods with a critical, skeptical mind will be essential to ensuring that the most well-supported methods continue to be used in the school system.

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