Childhood Trauma: A Multi-Tiered Approach to Prevention and Intervention in Schools

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ABSTRACT

Trauma is a major life adversity that affects many children. Trauma exposure can lead to various negative outcomes, including academic, behavioral, social, and mental health problems. Due to the nature of the school environment, school psychologists can play a key role in helping traumatized students cope with their trauma. This paper includes a review of various prevention and intervention strategies across a multi-tiered system of supports, including the basis for each strategy, a review of existing evidence-based research, suggestions for meeting the needs of traumatized students in schools, as well as practice and research implications.
Traumatic and stressful events, such as abuse, community violence, and natural disasters, are common occurrences that affect children. Approximately 60% to 70% of children experience at least one traumatic event by age 17, with children in more vulnerable or violent communities often experiencing additional trauma and stress (Briggs-Gowan et al., 2010; Finkelhor, Turner, Ormrod, Hamby, & Kracke, 2009; McLaughlin et al., 2013). Although developmentally appropriate levels of stress are a normal part of childhood and help foster resiliency, exposure to a traumatic event may lead to many negative life outcomes, including academic, social, and behavioral problems, as well as mental illness such as post-traumatic stress disorder (PTSD) and depression. The purpose of this paper is to introduce several prevention and intervention strategies across a multi-tiered system of supports, including the basis for each strategy, a review of existing evidence-based research, suggestions for meeting the needs of traumatized students in schools, and practice and research implications.

Trauma and Stress

The American Psychological Association (2016) defines trauma as the intense emotional response to a terrible event that may lead to shock or denial. Trauma may refer to a single event, multiple events, or a set of circumstances that leads to emotional harm and has lasting effects on an individual’s physical, social, emotional, and spiritual well-being (SAMHSA, 2014). Trauma can occur at any time or any place, and includes events such as exposure to community or school violence, physical or sexual abuse, neglect, domestic violence, natural disasters, terrorism, or any other event that causes intense emotional and psychological reactions (National Child Traumatic Stress Network, 2016).

Children may exhibit different symptoms depending on the type of trauma they have experienced. The most common type of trauma involves exposure to a single traumatic event,
such as a motor vehicle accident, school violence, or the death of a loved one. Children who have experienced a single traumatic event often display symptoms characterized by detailed memories and misconceptions about the traumatic event that may lead to re-experiencing symptoms such as flashbacks or frightening thoughts (National Institute of Mental Health, 2016). The second type, complex trauma, refers to repeated or chronic trauma exposure, such as child maltreatment, physical abuse, or neglect. Children who have experienced complex trauma often display symptoms of denial, dissociation, and aggression due to decreased perceptions of safety and direction. The third type, crossover trauma, occurs when a single traumatic event, such as a natural disaster, has lasting impacts, such as leaving a child homeless. Children who have experienced crossover trauma often show signs of grief and depression along with symptoms of both single and complex trauma (National Child Traumatic Stress Network, 2016).

Although the predictability, consequences, duration, and intensity of a traumatic event also influence a child’s response, they can typically be described by four categories of symptoms: affective, behavioral, cognitive, and physical (Brock et al., 2009; Cohen, Mannarino, & Deblinger, 2006; Little & Akin-Little, 2013). Affective symptoms, which involve changes in mood, consist of internalizing or externalizing behaviors. Internalizing behaviors include symptoms such as depression, anxiety, and social withdrawal whereas externalizing behaviors include symptoms such as disruptive behavior, aggression, and defiance (Meany-Walen, Kottman, Bullis, & Taylor, 2015).

Behavioral responses vary by child, but typically involve the avoidance of trauma reminders, such as people and places associated with the traumatic event or other reminders. Behavioral responses are often seen as numbness or inattentiveness and may result in social isolation and discipline within the schools (Little & Akin-Little, 2013). Cognitive symptoms
include memory problems, loss of interest in enjoyable activities, and distortions about one’s self, peers, or the world that may cause a child to believe the traumatic event was his or her fault or could have been prevented. Oftentimes cognitive symptoms worsen after the traumatic event and lead to alienation or detachment from friends and family (National Institute of Mental Health, 2016). Lastly, physical symptoms include elevated heart rate and blood pressure, hypervigilance, rapid breathing, and other physiological responses associated with a perceived threat (Little & Akin-Little, 2013). Because these symptoms are typically constant rather than episodic, they may make it difficult to complete daily tasks (National Institute of Mental Health, 2016).

A combination of symptoms in each of these categories can lead to various problems within the school setting, such as deficits in attention, concentration, abstract reasoning, and long-term memory. In addition, trauma exposure is associated with lower IQ, reading ability, and high school graduation rate as well as higher rates of absenteeism and truancy (Beers & DeBellis, 2002; Delaney-Black et al., 2003; Grogger, 1997). For these reasons, it is imperative that all school personnel understand the signs and symptoms of trauma exposure and respond appropriately to the needs of children who have experienced trauma.

Mental Health in Schools

Many children who require mental health services do not receive them (Bains & Diallo, 2015). Merikangas et al. (2011) found that of the 20% to 25% of children and adolescents with mental health issues, only about 36% receive mental health services of any kind. Of those who do receive mental health services, approximately 70% to 80% receive them within the school setting (SAMHSA, 2005). Because schools have such a large impact on children’s well-being and provide access to all students through mandatory attendance, they are the ideal setting for
providing mental health services to children (Ko et al., 2008; Jaycox, Morse, Tanielian, & Stein, 2006).

For many students, schools provide a familiar and safe environment for both learning and socialization. This familiar environment may help students feel more comfortable and supported in receiving mental health services than if they were to receive similar services at an outside agency (Rolfsnes & Idsoe, 2011). Furthermore, providing prevention and intervention services within the schools addresses many of the financial and structural barriers associated with mental health treatment (Bains & Diallo, 2015). In fact, research indicates that students referred within the school setting were more likely to receive treatment than those who were referred to outside services (Jaycox et al., 2010). School psychologists and other school-based mental health professionals, therefore, can play a major role in the prevention and intervention for students who have experienced trauma or are displaying symptoms of mental illness (Jaycox, Kataoka, Stein, Langley, & Wong, 2012).

**Multi-Tiered System of Supports**

The multi-tiered system of supports (MTSS) is a three-tiered approach that aims to alleviate academic and behavioral problems through prevention and early-identification, targeted intervention, and intensive individualized intervention. MTSS includes evidence-based practices, family, school, and community partnering, team-driven shared leadership, data based problem solving, and a continuum of supports (Lane, Oakes, & Menzies, 2014). Schools can implement MTSS to address a variety of issues within the school setting, from academic (e.g., Response to Intervention) to social (e.g., Social Support Services for Education Success) to behavioral (e.g., positive behavioral interventions and supports).
Tier one, referred to as primary or universal prevention, includes school-wide positive behavioral strategies and supports to prevent various problems and identify students who may require further intervention academically, socially, or behaviorally. Typically about 80 percent of students respond to tier one supports and do not require further intervention. Tier two, referred to as secondary or targeted intervention, includes small group or low-intensity interventions that aim to help students with identified problems and address their specific academic, social, and behavioral needs. Approximately 15 percent of students respond to tier two supports and do not require further intervention. Tier three, referred to as tertiary intervention, includes strategies for working with the remaining 5 percent of students who require more individualized and intensive supports. Although many students may receive tier three supports within the school setting, students exposed to trauma often require additional services from outside agencies that are better able to meet their needs. Regardless of the specific level of support necessary, the MTSS approach to academic, social, and behavioral problems ensures all students receive appropriate supports (Lane et al., 2015).

METHODS

Academic databases, such as ERIC (EBSCO), PsycINFO, Academic Search Premier, and Education Full Text, along with reference lists from relevant articles and books, were used to identify school-based prevention and intervention strategies for students who have experienced trauma. Search terms included: trauma, PTSD, prevention, intervention, treatment, children, adolescents, students, school, and school-based. In addition, the National Child Traumatic Stress Network (NCTSN) was used to identify specific evidence-based practices used in the treatment of post-traumatic stress disorder and other trauma-related mental illness. Research was limited to interventions reviewed within the past ten years; however, some older research articles were used
in the review when no recent studies were available. Related abstracts were then read to determine which articles would be relevant to this research. Articles that provided promising prevention and intervention strategies are reviewed in this paper.

**PRIMARY PREVENTION**

Although it is very difficult, and at times impossible, to prevent trauma from occurring in the first place, primary prevention strategies can help prevent trauma exposure from evolving into academic, social, or behavioral problems. There are several measures that schools, from elementary through high school, can take to help provide students with skills to overcome trauma exposure. Whereas some programs, such as trauma-informed schools, take a whole school approach to foster a safe and healthy learning environment for students, other programs, such as social-emotional learning, teach specific skills to overcome current and future adversity. Furthermore, prevention programs such as the PREPaRE model prepare school staff to provide students with trauma-informed services in the event of a crisis.

**Trauma-Informed Schools**

Trauma-informed schools, which work at the individual and systems levels, provide a community of school psychologists, administrators, teachers, and other school personnel who are able to recognize the impacts of trauma and respond in an appropriate and supportive way. At the tier one level, this requires open communication, yearly screening of all students, referral systems, and resiliency training (Chafouleas, Johnson, Overstreet, & Santos, 2016). Together, school personnel and students can build a respectful and supportive school climate in which students are able to safely learn how to cope with trauma and stress while succeeding academically, socially, and behaviorally. Many trauma-informed programs, whether in the schools, residential treatment facilities, or other environments, share several core characteristics.
The first characteristic is the need for professional development that trains all school personnel to understand how trauma affects various aspects of a student’s life and how to react to that student’s behavior. By understanding trauma and its impacts, school personnel can provide positive experiences that build the foundation for learning, respond to student triggers, and incorporate appropriate prevention and intervention procedures (Multiplying Connections Initiative, 2008; Walkley & Cox, 2013). Professional development efforts include discussions, training, and education about trauma that builds a consensus and readiness for change among all school personnel (Cole et al., 2009; Guarino, Soares, Konnath, Clervil, & Bassuk, 2009).

The second characteristic is the need to promote both physical and emotional safety. Students who have experienced trauma may feel helpless and in response to a perceived threat, prompting hyperarousal (i.e., fight-or-flight) or other physical reactions (Linning & Kearney, 2004; Oehlberg, 2008). The first step toward recovery is to establish safety (Brock, 2011). Only once students perceive physical and emotional safety and security can school personnel implement appropriate interventions. Whereas physical safety includes essentials like having a well maintained and secure building, reliable transportation, and accessibility, emotional safety includes having a supportive environment that is both culturally competent and provides confidentiality, open communication, consistency, and predictability (Guarino et al., 2009). To meet these needs, schools must provide a consistent, predictable, and respectful environment in which all students feel safe both physically and emotionally.

**Efficacy.** Many packaged trauma-informed programs are available to meet the specific needs of a school, such as UCSF Healthy Environments and Response to Trauma in Schools (HEARTS), Helping Traumatized Children Learn, Multiplying Connections, and Making SPACE for Learning. Although there is limited research on specific trauma-informed programs,
new studies are beginning to emerge as the topic of trauma becomes increasingly popular. Currently, many components of each program have research support and are effective in helping build trauma-informed practices.

Day et al. (2015) suggests that trauma-informed programs significantly reduce symptoms of post-traumatic stress disorder in at-risk students and decreases externalizing symptoms associated with the malfunctioning fight-or-flight response. Students at trauma-informed schools respond more positively to teachers than students in regular schools, indicating that teachers are more aware and sensitive to trauma exposure. Additionally, in a study of the HEARTS program, teachers reported greater understanding of trauma and trauma-informed practices as well as their students’ ability to learn and stay on task (Dorado, Martinez, McArthur, & Leibovitz, 2016). By establishing a safe environment that promotes connectedness, teachers can help students focus on academics and avoid possible triggers or trauma reminders (Cosby, 2015; Multiplying Connections Initiative, 2008). Overall, research indicates that trauma-informed programs can improve student academic performance, behavior, school climate, student seat time, and overall teacher satisfaction (Oehlberg, 2008).

In a case study that examined the transformation of a Washington state high school one year after becoming trauma-informed, researchers found that suspensions decreased by 85 percent (798 to 135), expulsions decreased by 40 percent (50 to 30), and referrals decreased by nearly 50 percent (600 to 320; Stevens, 2012). In another study, using the UCSF HEARTS program, an elementary school in San Francisco saw suspensions decrease by 89 percent (150 to 17) and referrals decrease by 74 percent (175 to 50; Stevens, 2014). Although more thorough analysis is unavailable, researchers credit these changes to several factors, such as an understanding and recognition by teachers when students are triggered and improved
relationships between teachers and students (Stevens, 2014). Both of these studies provide a real-world example of the potential benefits of providing trauma-informed services, as school personnel can avoid unnecessary punitive action and reduce problematic behavior.

There are several challenges to creating trauma-informed schools. Systems change is a difficult and time-consuming process that requires commitment by everyone involved (Barrow, McMullin, Tripp, & Tsemberis, 2012). Shared traditions by long-time educators are a major obstacle that can cause a significant barrier to implementation. Therefore, school leadership must provide active engagement in professional development that facilitates staff participation. By aligning professional development efforts with school culture and norms and creating a balance between concepts and practice, school personnel can build a consensus and momentum towards systems change (Brown, Baker, & Wilcox, 2011).

Social Emotional Learning

Social emotional learning (SEL) involves the acquisition of core competencies in recognizing and managing emotions, setting and achieving positive goals, appreciating others and their perspectives, and establishing and maintaining healthy relationships (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). Unfortunately, as many children, especially those with trauma exposure, progress through school, they become less connected with their academics, behavior, and health (Blum & Libbey, 2004). As a result, many students lack social competencies and struggle to succeed academically (Benson, 2006). The purpose of SEL is to address these aspects and facilitate academic engagement, work ethic, commitment, and overall school success. SEL programs also aim to increase positive social behaviors and decrease conduct problems and emotional distress (Durlak et al., 2011; Greenberg et al., 2003).
Schools can implement SEL programs in both general and special education classrooms at the tier one level. Prevention strategies foster development in self-awareness, self-management, social awareness, relationship skills, and responsible decision-making. Screenings within the schools also help identify at-risk students who may otherwise go unnoticed and untreated (Collaborative for Academic, Social, and Emotional Learning, 2005; Kramer, Caldarella, Young, Fischer, & Warren, 2014). SEL instruction is also appropriate at the tier two level in small groups or at the tier three level through individualized instruction. At these levels, schools adapt SEL as an intervention for specific problems such as substance use, violence, and dropout (Zins & Elias, 2006).

Schools have several options when implementing SEL programs. Whereas some programs directly teach social and emotional skills through contextual methods, other programs provide a specific curriculum that fosters a safe and caring learning environment. Different programs also target different age groups. SEL programs such as Promoting Alternative Thinking Strategies (PATHS) and The Incredible Years Program focus on pre-kindergarten through elementary aged children, whereas programs such as Second Step target students from kindergarten through eighth grade. Regardless, the goal of SEL programs is to help students develop a core repertoire of skills that allow them to recognize and manage emotions in a variety of situations (Durlak et al., 2011). Although there is support for many SEL programs, research indicates that the Reading, Writing, Respect, and Resolution (4Rs) program specifically, which works at the individual and systems levels, is effective for helping children exposed to trauma.

**Reading, Writing, Respect, and Resolution (4Rs).** The 4Rs program is an empirically based universal SEL intervention that evolved from the Resolving Conflict Creatively Program (RCCP), a foundational SEL program. By integrating SEL into language arts curriculum for
elementary students, the 4Rs program can help students both academically and behaviorally by teaching skills in handling anger, listening and cooperating, assertiveness, and negotiation (Aber et al., 2011). By improving student functioning in one domain, such as prosocial behaviors, functioning improves in additional domains, such as academic success (Domitrovitch et al., 2010; Guerra & Bradshaw, 2008).

The 4Rs program has two major components. The first component is a comprehensive seven-unit, 21-lesson curriculum that focuses on conflict resolution and social-emotional learning. The second component provides intensive professional development and training to help school personnel implement the program with fidelity. The curriculum adheres to grade-specific language arts requirements and incorporates readings, discussions, and social-emotional learning lessons. Professional development for teachers includes a training course and continued classroom support throughout the year from an experienced SEL teacher (Aber, Brown, Jones, Berg, & Torrente, 2011).

**Efficacy.** Research indicates that the 4Rs program leads to positive effects for both at-risk and typical students. In a study by Brown, Jones, LaRusso, and Aber (2010), 4Rs classrooms displayed higher quality interactions (including emotional support, instructional support, and organization) compared to control classrooms as rated on the Classroom Assessment Scoring System (CLASS). Specifically, treatment status was significantly related to observed overall classroom quality at the end of the school year ($p < .03$, effect size $= .70$). In another study, students in the intervention group displayed lower levels of hostile attribution bias ($p < .10$, effect size $= .20$) and self-reported depressive symptoms ($p < .10$, effect size $= .24$) than students in the control group (Jones, Brown, Hoglund, & Aber, 2010). Two years after implementation, students enrolled in 4Rs were less likely to select aggressive responses in conflict situations ($p <
.05, effect size = .25) and displayed lower instances of teacher-reported attention deficit hyperactivity disorder (ADHD; \( p < .10 \); effect size = .13) compared to students in the control group (Jones, Brown, & Aber, 2011). In addition, after two years, students originally considered at-risk showed the largest gains in academic skill and achievement in both reading and math (Jones et al., 2011). For students who had been exposed to trauma, the 4Rs program helped reduce instances of externalizing behaviors (e.g., aggression), internalizing behaviors (e.g., social isolation), and ADHD (Aber et al., 2011).

**Trauma Preparedness**

Whereas programs like trauma-informed schools and social emotional learning (SEL) each provide students with skills to overcome trauma exposure, trauma preparedness programs prepare school personnel to handle crisis situations. School crises, such as the death of a student or a natural disaster, are traumatic situations that often affect a large number of students. Although the law does not require schools to prepare for crisis situations, schools with adequate plans can respond more appropriately and provide services to affected students. The National Association of School Psychologists (NASP) sponsors the PREPaRE model, an extensive curriculum that trains school personnel how to respond to a variety of crisis situations.

**PREPaRE.** Creators of the PREPaRE model, a systems level approach, based the curriculum on three underlying factors: a multidisciplinary approach that utilizes various skill sets, a conceptual model unique to school crisis management, and the involvement of school-based mental health professionals (Brock et al., 2009). The PREPaRE workshop 2 model provides school personnel with information and training to prevent and prepare for psychological trauma, reaffirm physical health and perceptions of security and safety, evaluate psychological
trauma risk, provide and respond to psychological needs, and examine the effectiveness of crisis prevention and intervention (Brock, 2011).

In preventing and preparing for psychological trauma, PREPaRE ensures physical and psychological safety through the use of school-wide behavioral supports and universal prevention measures (Reeves, Nickerson, & Jimerson, 2006). These efforts include fostering internal and external resiliency skills and keeping students physically safe (Brock, 2011). If a school crisis does occur, the first step is reaffirming physical health and perceptions of security and safety. According to Barenbaum, Ruchkin, and Schwab-Stone (2004), “Non-psychiatric interventions, such as provision of basic needs, food, shelter, and clothing, help provide the stability required to ascertain the number of youth needing specialized psychiatric care (p. 49).” Through minimizing exposure, reuniting children with social supports, and returning to routine as quickly as possible, school personnel can reaffirm psychological health and safety (Brock, 2011).

Evaluating psychological trauma risk involves the consideration of crisis event variables and individual risk factors. Whereas the predictability, duration, consequences, and intensity affect all involved in the crisis, personal risk factors, such as physical and emotional proximity, internal and external vulnerability, and developmental and cultural variations affect individual responses. Conducting a psychological triage ensures that all students receive an appropriate level of support and that school personnel can provide and respond to individual psychological needs. At the tier one level, this includes reestablishment of social supports and psychoeducation through caregiver trainings and classroom meetings (Brock, 2011). At the tier two and tier three levels, this includes more individualized crisis intervention, classroom-based crisis intervention, psychoeducational groups, and psychotherapy (Brock et al., 2009).
The final step of the PREPaRE model involves strategies to examine the effectiveness of crisis prevention and intervention. This includes needs assessment, process analysis, and outcome evaluation. The PREPaRE curriculum provides school personnel with various documents, such as questionnaires, interview questions, and surveys, to aid in the process of evaluation (Brock, 2011). Overall, the PREPaRE model provides evidence-based methods that aid school personnel in the prevention, preparation, and response to school crises.

**Efficacy.** Research by Nickerson et al. (2014), indicates the PREPaRE training helps improve attitudes and knowledge of school personnel toward crisis prevention and intervention. In a survey of over one thousand PREPaRE workshop 2 participants, the mean rating on overall workshop satisfaction on a 10-point scale (1 = *I did not like this session at all*; 10 = *I liked this session a lot*) was 8.9 with a mode of 10. In addition, the mean rating for the degree to which the participant felt better prepared to respond to a school crisis (1 = *not at all*; 10 = *a lot*) was 8.6 with a mode of 10 (Brock, Nickerson, Reeves, Savage, & Woitaszewski, 2011). Furthermore, specific components of intervention, such as classroom-based crisis intervention (Brock, 2011), individual crisis intervention (Brymer et al., 2006), and psychotherapeutic methods (Fitzgerald & Cohen, 2012; Jaycox et al., 2012), are all evidence-based practices that help students overcome trauma exposure and will be discussed further.

**SECONDARY INTERVENTION**

Children who do not respond to tier one prevention strategies and continue to show symptoms associated with trauma exposure or who need additional support may receive services at the tier two level. Tier two interventions are typically group-based and involve aspects of cognitive behavioral therapy and social skills training, as they are both research-based interventions within the school setting. By providing interventions in a group setting, schools can
provide services to a greater number of students. In addition, grouping students with similar experiences may facilitate open sharing and create a feeling of connectedness among students (Wethington et al., 2008).

Although schools can successfully implement SEL programs at all three levels of MTSS, there are several trauma-informed interventions that target students specifically at the tier two level. Cognitive Behavioral Intervention for Trauma in Schools (CBITS) and Support for Students Exposed to Trauma (SSET) are both cognitive-based interventions that utilize many shared strategies, such as psychoeducation, relaxation training, exposure therapy, and problem solving. Classroom-Based Crisis Intervention (CCI), another tier two support, utilizes a multidisciplinary approach to provide support in the event of a school crisis.

**Cognitive Behavioral Intervention for Trauma in Schools.** Cognitive Behavioral Intervention for Trauma in Schools (CBITS), an individual, family, and systems level approach, provides both individual and group counseling for children exposed to trauma (Jaycox et al., 2012). Although its initial purpose was to help immigrant students exposed to violence in particular, developers have adapted CBITS to fit a variety of trauma-related issues. The overall goal of CBITS is to decrease symptoms of PTSD, depression, and anxiety (Little, Akin-Little, & Somerville, 2011). CBITS includes 10 weekly group sessions with six to eight students, several individual sessions, two educational meetings for parents, and educational training for teachers lead by a school-based mental health professional (Jaycox et al., 2012).

According to research (Jaycox et al., 2012), CBITS can reduce symptoms of PTSD, anxiety, and depression related to trauma exposure, and mobilize specific resilience factors that help children function in school, at home, and in society through the use of cognitive behavioral strategies. CBITS incorporates components of psychoeducation, relaxation training and anxiety
reduction, cognitive therapy, exposure therapy, and social problem solving, providing students with specific skills to overcome current and subsequent trauma exposure. Psychoeducation, which occurs during each session, provides students and parents with information about the effects of trauma. Relaxation training and anxiety reduction includes strategies that help students reduce physical symptoms of trauma, such as fight-or-flight arousal. Cognitive techniques aim to challenge negative automatic thoughts and help reduce the cognitive symptoms associated with trauma. Exposure therapy involves creating a trauma narrative and reducing anxiety. Additionally, social problem solving, a strategy reserved for the last session, allows students to address real-life problems associated with trauma and learn additional skills to help them handle these problems (Jaycox et al., 2012).

**Efficacy.** Research indicates that CBITS is effective in reducing symptoms of PTSD and depression in children. In a seminal study on the effectiveness of CBITS, children who received the intervention saw significant reductions in PTSD symptoms on the Child PTSD Symptom Scale (64% reduction from baseline, effect size = 1.08 SDs) and greater reductions in depressive symptoms on the Children’s Depression Inventory (47% reduction from baseline, effect size = .45 SDs) compared to the control group after three months. In addition, parents reported a 35% reduction (effect size = .77 SDs) in psychosocial dysfunction from baseline (Stein et al., 2003). Lastly, in another study, children who received CBITS earlier in the school year were more likely to have passing grades in language arts by the end of the school year than those who received treatment later in the year, indicating that CBITS can help students academically as well as behaviorally (Kataoka et al., 2011).

Other research on CBITS has addressed some of the barriers to implementation, including logistics, lack of support, competing responsibilities, and lack of parent engagement.
According to researchers, planning and consultation, ongoing support, core component fidelity, tailoring implementation to fit context, and monitoring student outcomes are all key components of successful delivery (Langley, Nadeem, Kataoka, Stein, & Jaycox, 2010). When these key components are present, CBITS is an effective treatment for students of various backgrounds in reducing symptoms of both PTSD and depression while increasing academic success. Although CBITS is an effective intervention for children with symptoms of PTSD and depression, the need for a mental health professional to deliver the program limits its overall reach. To address this limitation, researchers created Support for Students Exposed to Trauma (SSET), a non-clinical adaptation of CBITS that allows for implementation by school counselors and teachers.

**Support for Students Exposed to Trauma.** Like CBITS, SSET works at the individual and systems levels and includes elements of psychoeducation, relaxation training, cognitive therapy, exposure therapy, processing of traumatic memories, and social problem solving. The goal of SSET is to help students build skills to reduce problems with both internalizing and externalizing symptoms associated with trauma exposure while eliminating the need for a school-based mental health professional in its implementation. Unlike CBITS, however, SSET is adapted into a lesson plan format, eliminates the parent sessions, and takes on a more curricular format to fit the specific needs of classroom-based intervention. Furthermore, school counselors and teachers can deliver SSET during a single class period, providing a more school-friendly structure. Sessions typically include a review of the previous session, new material, activities that promote mastery, and homework that promotes independent practices (Jaycox et al., 2009).

**Efficacy.** There is limited research on the effectiveness SSET; however, it is still a promising intervention. In a pilot study by Jaycox et al. (2009), students who received the intervention saw a greater reduction in self-reported PTSD symptoms (31% reduction, \( p = .058 \),
effect size = .39) and self-reported depression (12% reduction at follow-up, $p = .046$, effect size = .25) compared to the control group at follow-up. Changes in parent reported psychosocial behavior, however, were negligible and changes in teacher report were only small in effect size (.006). Regardless, children, parents, and teachers were highly satisfied with SSET and school counselors and teachers were able to implement the program with fidelity. Although delivering SSET through school counselors and teachers addresses one of the key barriers to intervention in schools, further research is necessary to determine its immediate and long-term effectiveness (Jaycox et al., 2009). Additionally, in the event of a school crisis, a more immediate response may be necessary. Before CBITS or SSET is appropriate, Classroom-Based Crisis Intervention (CCI) can be utilized to address a large number of students at once.

**Classroom-Based Crisis Intervention.** As part of the PREPaRE model, classroom-based crisis intervention (CCI) provides support to groups of students who are having difficulty coping with a trauma or crisis. By identifying naturally occurring groups of students based on classroom membership, age, grade, familiarity with the victim, and/or degree of exposure, those facilitating the intervention can ensure homogeneity. CCI is effective for groups of approximately 15 to 30 students but requires a 1:10 ratio of adults to students. The format of CCI follows a six step process that includes introducing the facilitators of the intervention and their role, providing facts and dispelling rumors, sharing crisis stories, identifying reactions, empowerment, and closure. The goal of this process is to help students understand trauma, express and normalize thoughts and feelings, and learn effective coping strategies to overcome trauma exposure. After providing closure, facilitators listen to and spend time with students, offer individual conversation, and reassure safety to help students resume their normal routine (Brock, 2011).
**Efficacy.** Although no formal research addresses the effectiveness of CCI, each component is based on trauma research and research shows the PREPaRE model is effective in preparing school personnel to handle school crises. The first component, introducing the session, helps students understand the purpose, process, and steps of CCI and allows facilitators to provide ground rules for the session. By providing facts and dispelling rumors, students gain cognitive mastery of the crisis and guide the direction of the session. Sharing crisis stories and identifying reactions allows students to share and normalize their experiences. Lastly, empowering students and providing coping strategies and stress management techniques helps students overcome trauma exposure (Brock et al., 2009).

**TERTIARY INTERVENTION**

Students who require additional support past the tier one and tier two levels typically receive individualized intervention at the tier three level. These students typically display symptoms that severely hinder them academically, socially, and behaviorally. Academically, tier three intervention includes students with an Individualized Education Program (IEP) who are receiving specific academic supports and accommodations within special or general education. Behaviorally, this includes students with a Behavioral Intervention Plan (BIP), receiving individual counseling, or both. Although there are several options for providing services to students at the tier three level within the school setting, students will sometimes require a referral to outside resources.

It is essential for school psychologists to recognize when collaboration is necessary and work within their competency. Furthermore, school psychologists must know how to effectively collaborate with outside resources when students need additional services and supports. According to Shaw, Clayton, Dodd, and Rigby (2004), significant mental illness, such as PTSD,
requires ongoing collaboration between educators, families, and healthcare providers. When collaborating with outside resources, it is important for school psychologists to team up with other mental health professionals, respect professional boundaries, invite participation, communicate effectively, and engage parents in the process (Shaw et al., 2004).

Within the schools, Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) has the most research support for working with children. While TF-CBT is the primary intervention used by psychologists in treating PTSD in children, there are several structural constraints that hinder the implementation of TF-CBT within the school setting. Other options that are designed specifically for the schools include Bounce Back, which combines many aspects from both CBITS and TF-CBT, and individualized crisis intervention, which often occurs after a crisis event.

**Trauma-Focused Cognitive Behavioral Therapy.** Of the available treatments for children exposed to trauma, TF-CBT has the greatest amount of research support. TF-CBT, which works at the individual and family levels, is effective in a variety of settings and for a variety of types of trauma. By incorporating specific elements from several types of therapy, TF-CBT targets the affective, behavioral, cognitive, and biological symptoms of trauma while promoting social and academic functioning. Although school psychologists rarely implement TF-CBT in their practice, its structure allows for school-friendly modifications that maintain treatment fidelity (Fitzgerald & Cohen, 2012). However, it is mostly used in outside agencies for children with a medical diagnosis of PTSD.

TF-CBT includes 12 to 20 weekly sessions and contains individual and conjoint elements. With aspects from several types of therapy, TF-CBT aims to help children improve emotional regulation, improve parental/caregiver understanding of trauma experiences and
responses, control triggers, memories, thoughts, feelings, and avoidance surrounding the trauma, contextualize the traumatic experience, and enhance coping skills and developmental outcomes (Fitzgerald & Cohen, 2012). TF-CBT achieves these goals by implementing the acronym PRACTICE, which stands for psychoeducation, relaxation training, affective modulation, cognitive coping, trauma narrative, in-vivo mastery of trauma reminders, conjoint sessions, and enhancement of safety and future development. Psychoeducation, relaxation training, affective modulation, and cognitive coping are considered skills-based components and include specific skills such as relaxation techniques, positive imagery, and challenging negative automatic thoughts. The trauma narrative, in-vivo mastery of trauma reminders, conjoint sessions, and enhancement of safety are the trauma-specific components, which help children cope with their trauma and recognize and avoid negative behaviors associated with trauma (Little, Akin-Little, & Gutierrez, 2009).

**Efficacy.** Randomized controlled trials, quasi-experimental trials, and open trials have all demonstrated the effectiveness of TF-CBT, making it one of the most highly regarded treatments for children exposed to trauma (Little, Akin-Little, Somerville, 2011). Research indicates that TF-CBT reduces PTSD symptoms and diagnosis, depression, anxiety, externalizing behaviors, social competence, sexually reactive behavior problems, shame, and trauma-related cognitions (Cohen, Deblinger, Mannario, & Steer, 2004; Cohen & Mannarino, 1996, 1998a; Deblinger, Lippmann, & Steer, 1996; Cohen, Mannarino, & Iyengar, 2011). In a meta-analysis of over 25 interventions for PTSD, TF-CBT was the most effective intervention for reducing symptoms of PTSD, particularly for individuals with clinical diagnoses (Little, Akin-Little, Somerville, 2011; Roberts et al., 2009).
Although there are studies that look at the effectiveness of TF-CBT in a variety of environments, there are no current studies on TF-CBT in the schools due to several barriers. One common barrier is fitting the structure of TF-CBT, which typically requires one-hour sessions, into the busy school schedule. Additionally, gaps in treatment due to long weekends, school breaks, and other school activities can prevent a student from receiving consistent intervention. However, when a school places value on student mental health services and allows for alterations in the school schedule, TF-CBT can be implemented successfully within the schools while maintaining treatment fidelity (Fitzgerald & Cohen, 2012). In effort to provide TF-CBT components in the school setting for younger children, researchers developed the Bounce Back model, an intervention that combines many aspects of both TF-CBT and CBITS.

**Bounce Back.** During the development of Bounce Back, researchers gathered feedback from the creators of TF-CBT (J. Cohen) and CBITS (L. Jaycox), as well as other experts in the field of school mental health, to design a treatment that would optimize student outcomes. As a result, the Bounce Back intervention follows a group format similar to that of CBITS. In addition, Bounce Back includes increased parental involvement and a trauma narrative process similar to TF-CBT. The Bounce Back intervention typically includes 10 group sessions, two to three individual sessions, and one to three parent education sessions lasting about an hour each. These sessions each contain many of the components shared by TF-CBT and CBITS, such as psychoeducation, relaxation training, cognitive coping, and exposure to avoided stimuli. Like TF-CBT and CBITS, the goal of Bounce Back is to reduce trauma-related symptoms in children (Langley, Gonzalez, Sugar, Solis, & Jaycox, 2015).

**Efficacy.** In a study by Langley et al. (2015) on the effectiveness of Bounce Back using a sample of 74 students, students who received the intervention saw greater reductions in PTSD on
the UCLA Posttraumatic Stress Disorder Reaction Index (43% reduction at 3 months; \( p = .022 \))
and anxiety on the Screen for Child Anxiety and Related Disorder (27% reduction at 3 months; \( p = .0002 \))
compared to waitlist control students. These results were maintained at the 6-month follow-up. Furthermore,
children in the treatment group continued to show improvements in social adjustment, behavior, emotional expression,
and coping. Lastly, Bounce Back was highly accepted by both parents (\( M = 5.31/6 \)) and children (\( M = 2.66/3 \))
across all ethnic groups, indicating it is an appropriate intervention within the schools (Langley et al., 2015).
Despite these promising results, additional research is needed to determine the immediate and long-term effectiveness
of Bounce Back within the school setting. In the event of a crisis, a more immediate response is necessary.
Individual Crisis Intervention (ICI) provides many of the same benefits as CCI (tier two) in a more individual setting (tier three).

**Individual Crisis Intervention.** As part of the PREPaRE model, Individual Crisis Intervention (ICI)
provides individual support to students severely affected by a crisis. The format of ICI is similar to that of CCI,
and includes efforts to establish psychological contact, verify emotional readiness to identify and solve problems,
identify and prioritize crisis problems, address these problems, and evaluate and conclude the session. The immediate goal
of this process is to reestablish coping skills while stabilizing acutely traumatized students by ensuring safety,
identifying crisis-related problems, supporting adaptive coping and problem solving, and assessing trauma risk (Brock et al., 2009).

**Efficacy.** Like CCI, there is no formal research on the effectiveness of ICI. However, each component is
based on trauma research. The first component, which involves establishing psychological contact through
the use of empathy, respect, and warmth, helps the student feel comfortable with the facilitator and builds rapport.
By verifying emotional readiness, the
facilitator can determine whether the student is ready for intervention or if stabilization is necessary. The process of identifying and prioritizing crisis problems and current coping strategies empowers the student and provides cognitive mastery of the crisis. In addressing crisis problems identified by the student, the facilitator can help explore additional coping strategies that may be effective in overcoming the trauma exposure (Brock et al., 2009). All together, the PREPaRE model provides school psychologists a toolkit for working with students affected by a crisis event.

**DISCUSSION**

Trauma exposure is not uncommon among children, with the majority of children experiencing at least one traumatic event before adulthood (Briggs-Gowan et al., 2010; Finkelhor, Turner, Ormrod, Hamby, & Kracke, 2009; McLaughlin et al., 2013). Because schools play such a large role in the lives of children, school psychologists are uniquely situated to provide both prevention and intervention services to children within the school setting. By implementing these services through a multi-tiered system of supports, all children receive the level of support appropriate to their specific needs (Lane et al., 2015). However, to ensure each child receives these supports and services, school psychologists must be familiar with effective strategies.

At the tier one level, school psychologists must recognize the importance and facilitate the implementation of trauma-informed services. This paper focused on trauma-informed services as a preventative strategy, however, providing additional trauma-focused services beyond the tier one level, such as CBITS and TF-CBT, is an important aspect of becoming trauma-informed and responding to students exposed to trauma. Although there is limited research on the effectiveness of specific trauma-informed programs, school psychologists should
continue to seek effective strategies for helping children cope with trauma and succeed academically. In this effort, researchers and school psychologists must continue to evaluate different trauma-informed programs and identify strategies for working with different populations of students. As case studies continue to illustrate the effectiveness of trauma-informed programs, school psychologists can more easily determine which programs or specific elements match the specific needs of their school.

Similarly, there are many affective research-based SEL programs for trauma as well as other issues, including academic, social, emotional, and mental health problems (Durlak et al., 2011). Of these programs, research supports 4Rs for students who have experienced trauma (Aber et al., 2011). However, many of these programs, including 4Rs, target younger children. Future research should focus on the development of SEL programs that can be used as at all three levels of MTSS for older students. By incorporating both trauma-informed services and SEL programs at the universal level, all students can receive some level of support. In addition, by incorporating these programs on all three levels of MTSS, schools can create a learning environment that fits the needs of every student.

At the tier two level, school psychologists can play a central role in providing group intervention to children exposed to trauma. Although TF-CBT has the most research support among trauma-based interventions, it is not always plausible in the school setting. However, research shows that CBITS is also an effective intervention for children in the school setting (Jaycox et al., 2011). CBITS allows school psychologists to provide intervention to several students at once and is designed for implementation within the school setting, eliminating several of the barriers associated with TF-CBT. Furthermore, CBITS training is available online, making it an accessible tool for all school psychologists.
Similarly, school psychologists can play a key role in training and early implementation of SSET within the schools. Although more research is needed, SSET is a promising group intervention that eliminates the need for a school-based mental health professional by relying on school counselors and teachers (Jaycox et al., 2009). Future research should focus on the long-term effectiveness of SSET as well as strategies for implementing the intervention with fidelity.

At the tier three level, it is important that school psychologists work within their competency. TF-CBT can be adapted to fit the school environment, however, in doing so, it is important to maintain treatment fidelity. Because TF-CBT is such an effective intervention, future research should focus on how to fit the structure of TF-CBT within the parameters of the school setting. Furthermore, strategies for creating a school environment that recognizes the importance of mental health will help in the implementation of TF-CBT in the school setting. When TF-CBT is not plausible in the school setting, school psychologists should refer to outside agencies or implement other interventions, such as Bounce Back or CBITS (Shaw et al., 2004). Although there is limited research support, school psychologists can use Bounce Back for younger children or other combined forms of therapy to incorporate the more school-friendly aspects of TF-CBT in their intervention.

Lastly, it is important that school psychologists are ready to handle any school crisis event. The PREPaRE model trains school psychologists and other school personnel how to handle school crises by focusing on prevention and preparation and specific strategies at the tier two and tier three levels. The PREPaRE model helps school psychologists reaffirm physical and perceived health and safety, and determine the specific psychological needs of students affected by the crisis event. Through psychological triage, school psychologists can provide appropriate
interventions, such as classroom-based crisis intervention and individual crisis intervention, to help students cope with school crises.

School psychologists must be prepared to provide support and services to students exposed to trauma across all three levels of MTSS. Through the use of prevention services such as trauma-informed schools and SEL programs, all students can receive a baseline level of support. For students who need additional services, school psychologists can implement programs like CBITS and SSET. When students do not respond to tier two interventions, school psychologists have the option of referring students to outside resources or providing intensive interventions, such as TF-CBT or Bounce Back. Regardless of the level of support a student may need, school psychologists have a responsibility and must be prepared to provide the support necessary to help students cope with and overcome their trauma so they can succeed academically, socially, and behaviorally.
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