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REVIEW PAPER

A Scoping Review of School-Based Efforts to Support Students Who Have Experienced Trauma

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Abstract

The current review sought to describe the published literature relative to addressing trauma in schools. Through a systematic review of peer-reviewed publications as well as gray literature, we identified a total of 91 publications that were coded for study rigor as well as a number of intervention characteristics. Publications included in the review mentioned a variety of intervention components, most notably an emphasis on counseling services, skill development, psychoeducation related to trauma, and parent engagement. We identified a relative lack of empirical evaluation of whole-school approaches and interventions intended to be delivered by non-clinical staff. We also found that less rigorous publications were more likely to highlight the needs of particularly vulnerable groups of youth and to emphasize cultural competence and community engagement in efforts to address trauma in schools. We call for more rigorous evaluation of practices and policies that take a whole-school approach and can be implemented by non-clinical staff. In particular, we highlight the need to evaluate professional development strategies that can help school staff acquire knowledge and skills that can translate into improved outcomes for students—especially students from historically marginalized groups. We also emphasize the importance of ensuring that high-quality research be made accessible to policymakers and school staff to ensure that clear, evidence-based guidance is available to avoid programs, practices, and policies that may inadvertently traumatize students or exacerbate symptoms among students who have already experienced trauma.

Keywords Trauma · Policy · Program · Practice · Review · School-based

Introduction

Over the past decade, increasingly sophisticated research has confirmed that trauma—the long-lasting, adverse response to a physically or emotionally harmful or life-threatening event, series of events, or circumstances—can significantly

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alter the brain (Anda et al., 2006; Stark et al., 2015). Exposure to traumatic stress in childhood can contribute to mental, emotional, and behavioral challenges including mood disorders and difficulties with self-regulation that can lead to poor academic performance (Terrasi & de Galarce, 2017). At the same time, many jurisdictions across the country have adopted punitive approaches to discipline that do not align with the current research on the effects of trauma and are often disproportionately applied to students of color and students with disabilities (Skiba & Peterson, 2000; Curran, 2016).

As awareness about trauma has grown, researchers, policymakers, and practitioners are paying more attention to understanding the impacts of trauma and increasing the capacity of service systems to adequately address trauma in recent years (Donisch, Bray, & Gewirtz, 2016; Ko et al., 2008). In response to this increasing awareness, nearly a dozen states have passed legislation encouraging or requiring school staff training on the impacts of trauma on students (Chriqui et al., 2019). Yet, despite this growing consensus that school staff play a critical role in supporting students that have had traumatic experiences, there remains a need to identify the most effective strategies for increasing schools' capacity in these efforts.

Much of the existing work around trauma is informed by the US Substance Abuse and Mental Health Services Administration (SAMHSA, 2014). SAMHSA defines individual trauma as "an event, series of events, or set of circumstances that is experienced by an individual as physically or emotionally harmful or life threatening and that has lasting adverse effects on the individual's functioning and mental, physical, social, emotional, or spiritual well-being" (p. 7). Accordingly, SAMHSA describes a trauma-informed program, organization, or system as one that "(1) realizes the widespread impact of trauma and understands potential paths for recovery; (2) recognizes the signs and symptoms of trauma in clients, families, staff, and others involved in the system; (3) responds by fully integrating knowledge about trauma into policies, procedures, and practices; and (4) seeks to actively resist re-traumatization" (p. 9).

The concept of trauma-informed care emerged within health care settings—including physical and behavioral health systems—in the early 2000s (Harris & Fallot, 2001). As the concept gained prominence, other systems including child welfare and juvenile justice began to seek effective ways to integrate trauma-informed approaches into their delivery models (Ko et al., 2008). Education settings are now seeking ways to integrate trauma-informed approaches into their schools and classrooms. However, education settings differ in scope and structure from medical, child welfare, and juvenile justice settings. For example, public schools are intended to educate all children, whereas the other systems typically serve a selected group of youth with identified symptoms or risk factors. Additionally, many medical, child welfare, and juvenile justice professionals receive intensive training in behavioral health topics and typically work to address the needs of individual youth and their families. The majority of school staff, on the other hand, receive limited training in behavioral health topics and are typically charged with addressing the varying needs of a classroom of students (Chafouleas, Johnson, Overstreet, & Santos, 2016). Thus, it is critical to identify and address the gaps in knowledge with respect to effective school-based interventions to address trauma.

Previous reviews of school-based trauma interventions highlight two important gaps in knowledge. First, there is a lack of rigorous evaluation of trauma-informed interventions that are delivered by teachers—even fewer evaluate the effectiveness of training for school personnel (Rolfsnes & Idsoe, 2011; Zakszeski, Ventresco, & Jaffe, 2017). This dearth is particularly striking given evidence suggesting that interventions delivered by teachers can be effective in improving student behavioral health outcomes. For example, a review of 49 studies of mental and behavioral health interventions found that 40% included some involvement of classroom teachers (Franklin, Kim, Ryan, Kelly, & Montgomery, 2012). Notably, the interventions delivered by classroom teachers were just as effective as those delivered by mental health clinicians. Durlak, Weissberg, Dymnicki, Taylor, and Schellinger (2011) conducted a meta-analysis of over 213 school-based, universal social and emotional learning (SEL) programs and found that interventions led by teachers were the most effective for a range of outcomes including behavior, emotional distress, and academic performance. These reviews suggest that non-clinical school staff can also be effective in supporting students experiencing trauma.

Second, many schools have embraced the Multi-Tiered Systems of Support (MTSS) approach to addressing students' needs (Sugai & Horner, 2019). However, efforts to rigorously evaluate trauma-focused interventions across different tiers of support have been uneven and have left schools with little evidence of what works with respect to *Universal* (Tier 1) interventions. The reviews published by Rolfsnes and Idsoe (2011) and Zakszeski et al. (2017) almost exclusively focused on intensive interventions that would be classified as *Targeted* (Tier 2) or *Intensive* (Tier 3) approaches. Somewhat unique to trauma-related interventions, a *Targeted* or *Intensive* intervention could be classified as *Universal* in a post-traumatic event situation. For example, in a school where students have experienced a natural disaster, providing a high-intensity intervention to all students could be classified as *Universal* implementation, even though the intervention itself would generally be considered Tier 2 or 3. Zakszeski et al. (2017) noted that most of the 15 studies they reviewed that fell into the category of

Universal interventions were actually high-intensity interventions being delivered broadly in response to a particular incident. Neither of the previously published reviews we identified included *Universal* interventions beyond those used to screen students to identify youth in need of more intensive services.

Given the lack of rigorously evaluated studies of school-based, trauma-focused interventions that address the role of non-clinical staff, a broader review of relevant publications is warranted. Such a review can serve to characterize the literature from which schools draw to inform their efforts to address trauma and highlight future research priorities.

Objectives of Review

The current review is intended to describe the published literature relative to interventions used to address trauma in schools. Our definition of intervention includes policies (i.e., a set of guidelines intended to address trauma, such as requiring training on trauma), programs (i.e., a structured set of activities to address trauma, such as a staff training on trauma or a set of lessons targeting coping skills), and practices (i.e., a behavior or set of behaviors intended to address trauma, such as avoiding using loud noises or turning off lights to get student attention). Specifically, we sought to answer two questions: (1) What types of school-based, trauma-focused interventions are described in the literature and (2) how does the literature vary across different levels of scientific rigor?

Recognizing that schools access information from a variety of sources, the current review includes peer-reviewed studies as well as publications from reputable sources such as reports from government agencies, research centers, and professional associations (i.e., *gray literature*). Given the variety of scientific rigor reflected across the literature, we classified publications into five categories based on type and rigor. Publications that reported on an evaluation of the effectiveness of a particular intervention were classified as *experimental* if they randomized participants to an intervention or control condition and *quasi-experimental* if they did not randomly assign participants but did make comparisons either between intervention and comparison groups or within the same group of participants before and after exposure to the intervention. The publications classified as *systematic reviews* met the following criteria: (1) summarized existing research; (2) described their search strategy; (3) searched multiple databases; and (4) screened search results against pre-established inclusion/exclusion criteria. Publications that summarized existing research but did not meet the other three criteria were classified as *literature reviews*. Finally, we classified publications that focused primarily on describing how an intervention was—or should be—delivered without presenting an evaluation of its effectiveness as *descriptive*. Publications that described implementation but also reported the effects of the intervention were classified as experimental or quasi-experimental depending on the rigor of the study design.

Methods

Article Identification

This paper follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher, Liberati, Tetzlaff, & Altman, 2009). See Fig. 1 for the flow diagram. We took a dual approach to identifying relevant peer-reviewed and gray literature publications. Both approaches used similar search strategies, although most gray literature publications did not include an abstract and therefore required a full-text review. Below, we outline search strategies for each approach. Full-text reviews were conducted in an identical manner for both approaches.

To identify peer-reviewed publications, we searched the following bibliographic databases: PubMed, ERIC (EBSCOhost), PsycINFO (ProQuest), PAIS (ProQuest), and Web of Science Core Collection. Searches were conducted for the literature published from January 2010 through July 2018 in order to focus on interventions that reflect current understanding of the neurobiological effects of trauma (Shonkoff, 2016; Thomason & Marusak, 2017). The search strategies for each database included both controlled vocabulary terms and keywords that were based around the three conceptual domains of *school-based*, *trauma*, and *interventions*. In order to make comparisons across different contexts without arbitrarily excluding non-western countries, we limited search results to only countries classified as low risk by the Organization for Economic Cooperation and Development (OECD) including the USA, Canada, European countries, Israel, Japan, South Korea, Chile, Australia, and New Zealand. See [Supplementary File A1] for complete search strategies. We also included peer-reviewed publications that were submitted through a Call for Submissions which was distributed through Child Trends' listserv of nearly 40,000 researchers, practitioners, and policymakers with an interest in research that focuses on the health and well-being of children and youth. Our research team screened the abstracts to ensure they mentioned trauma and included some indication that the publication addressed a school-based intervention. To achieve reliability across reviewers, the team of reviewers initially reviewed the same 30 abstracts and discussed any differences of opinion until all reviewers came to consensus. Subsequently, reviewers flagged any abstract for which they were uncertain for a second review. In the case of a

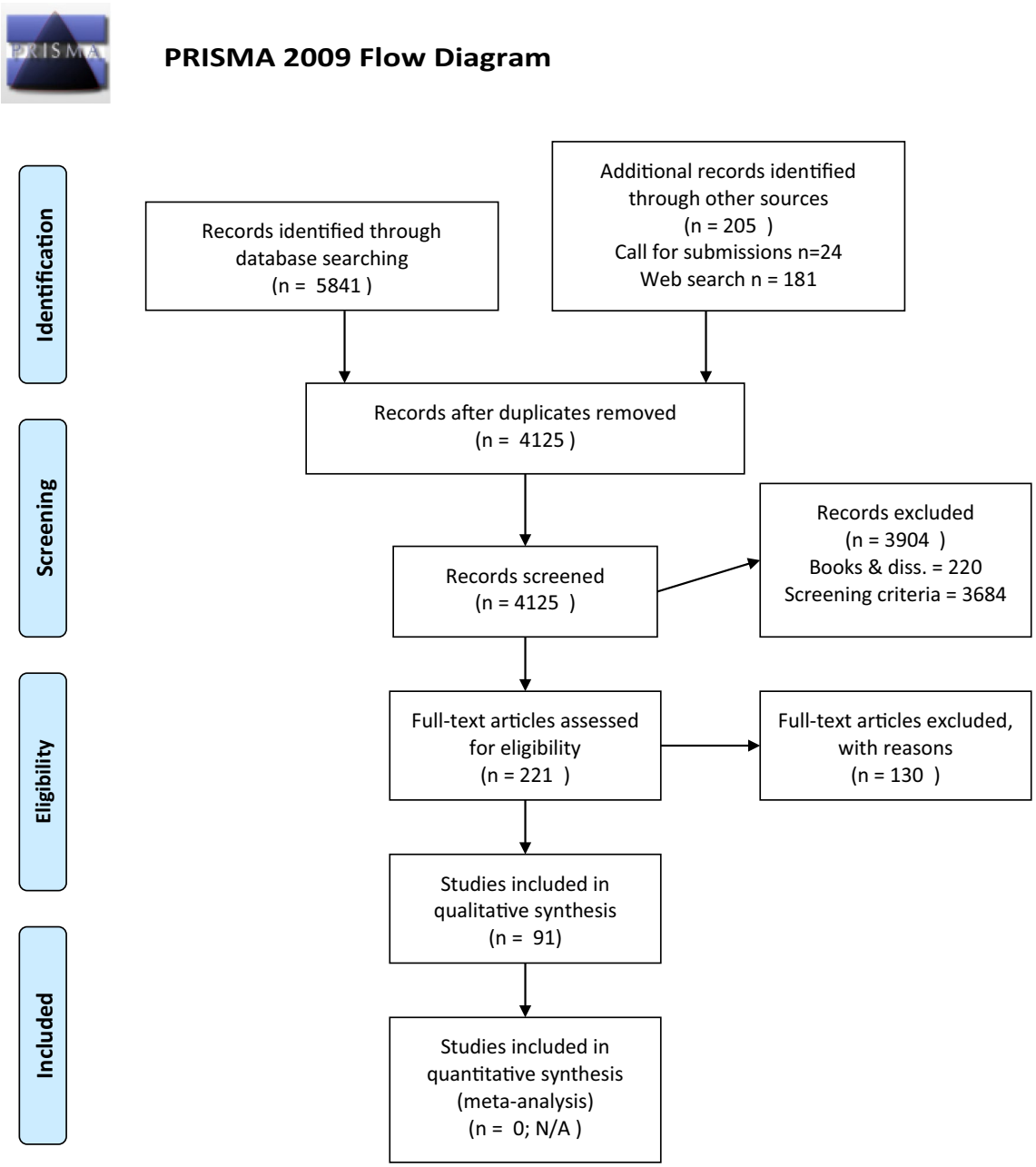

Fig. 1 PRISMA flow diagram

disagreement, a senior member of the team was consulted to make the final decision.

To identify gray literature publications, the research team developed a list of relevant government agencies, research centers, and professional associations, which was reviewed by senior researchers with expertise in trauma-informed interventions. Research assistants then conducted searches of the associated Web sites using the same search terms as described above. Because most publications identified through the Web search did not have abstracts, they were included in the full-text review. We also included gray literature publications that were submitted through a Call for Submissions.

During the full-text review of the 221 publications identified through the database and Web searches described previously, publications were excluded if (a) they did not describe a specific intervention or set of interventions; (b) there was no evidence that the intervention targeted trauma-related outcomes (e.g., psychosocial functioning, staff ability to recognize trauma and make appropriate referrals, or promotion of physical and emotional safety); (c) the intervention targeted preventing a driver of trauma (e.g., bullying, suicide,

child maltreatment), but not responding to the trauma response; or (d) the target of the intervention did not include students or adults working in a K-12 education setting (e.g., early childhood, out of school, or higher education).

Data Extraction

To describe the school-based, trauma-focused interventions in the literature, we imported all 91 publications into Dedoose, a qualitative software for review (Dedoose, 2018). We also compiled a summary spreadsheet as a double-entry data extraction method. We extracted information for the following characteristics: intervention characteristics, intervention components, facilitator characteristics, study rigor, and outcomes. These data were compiled into a summary table.

Data Coding

To describe the interventions and identify differences across the varying levels of scientific rigor, including a bias assessment for experimental and quasi-experimental studies (Higgins & Green, 2011), the research team developed a standard set of codes and definitions for each code (Table 1). Coded variables were grouped into several categories to describe the contexts within which interventions were delivered, the components of the interventions, the expected outcomes, and the scientific rigor of the studies.

Training on coding was conducted by the first author and included a discussion of the codes to be used and definitions of those codes. Codes were developed by the first author in collaboration with experts in childhood trauma and school-based wellness interventions. After training, coders each coded the same publication and met to discuss their interpretation of the codes to establish agreement and address any lingering questions about definitions. Coders met twice during the full-text review to discuss coding and resolve any challenges they were having with applying the codes. Coders also conferred with the coding coordinator, who consulted with the first author to resolve any disagreements or address uncertainties in how to apply codes. Additionally, coders all coded the same publication in order to assess the percent of agreement. We calculated an 82% agreement across the coders; 80% and above is commonly considered an acceptable degree of agreement (Belur, Tompson, Thornton, and Simon (2018; p. 7).

In addition to the training and double-coding, the team also employed a double-entry system for coding intervention components whereby coders (a) coded relevant text using Dedoose and (b) completed a spreadsheet where they indicated whether information on a particular variable was present in a given publication. This double-entry system was used to conduct quality control of the data coding. A member of the research team constructed a coding matrix using Dedoose to determine which codes were, or were not, used in coding each publication. The matrix created by Dedoose was then compared to the spreadsheet, and any discrepancies were addressed by a second coder. The second coder conferred with the first author to resolve uncertainties. Variables related to study design, study sample, dosage, setting, and level of rigor were not entered into the spreadsheet but were all double-coded to ensure agreement.

Results

A total of 5841 publications were retrieved from the electronic databases, 181 publications were identified through a search of relevant Web sites, and 24 were identified through a call for submissions. After removing duplicate entries, 4125 publications remained. A total of 3904 records were excluded based on screening criteria, resulting in a total of 221 publications that were maintained for full-text review. During the full-text review, another 130 publications were excluded due to not meeting the study criteria. Ultimately, 91 publications were selected for data extraction. Table 2 provides a brief description of each publication included in the review.

Below, we summarize key findings from these publications. The findings of this review have been organized around publication rigor rather than some other characteristic—such as MTSS tier or intervention setting—in order to highlight the gaps in evidence with respect to programs, policies, and practices that are implemented in schools to address trauma. This strategy allows policymakers and practitioners to better understand the strength of evidence behind these interventions. It also allows researchers to identify interventions that lack rigorous evaluation in order to prioritize studies that will fill identified gaps in evidence when it comes to what is currently being implemented in schools.

Rigor

We classified the scientific rigor of each publication into five categories: experimental studies, quasi-experimental studies, systematic reviews, literature reviews, and descriptive publications. Descriptive studies—the least rigorous of the five categories—were the most common (44%) followed by literature reviews (23%) and quasi-experimental studies (21%); experimental studies (6.5%) and systematic reviews (5.5%) were the least common. Many of the literature and systematic reviews included experimental and quasi-experimental studies that were also included in our review—most often evaluations of Cognitive Behavioral Interventions for Trauma in Schools (CBITS).

Table 1 Code definitions

Code		Definition
Intervention characteristics		
Intervention type	Policy	A set of guidelines intended to address trauma, such as requiring training on trauma
	Program	A structured set of activities to address trauma, such as a staff training on trauma or a set of lessons targeting coping skills
	Practice	A behavior or set of behaviors intended to address trauma, such as avoiding using loud noises or turning off lights to get student attention
Intervention Setting	Whole school	Intervention is delivered throughout the school, such as an assembly
	Classroom	Intervention is delivered in a classroom
	Non-classroom wellness	Intervention is delivered in a non-classroom setting dedicated to wellness promotion, such as a health suite or counselor's office
	Non-classroom other	Intervention is not "whole school" and is not delivered in a classroom or wellness space, such as an intervention delivered at recess on the playground
Target	Individual	Seeks to change student outcomes and is delivered one-on-one
	Small group	Seeks to change student outcomes and is delivered in small groups (generally not in the classroom)
	Whole classroom	Seeks to change student outcomes and is delivered to all students in a classroom together
	Whole school	Seeks to change student outcomes and is delivered to all students in a school together
	Staff	Staff receive the intervention. This could be staff wellness-focused or a training that focuses on staff behaviors
Objective	Identify	The intervention seeks to identify students with exposure to traumatic events or exhibiting symptoms (impaired functioning)
	Referral	The intervention seeks to connect students with unmet clinical needs to school- or community-based clinical services
	Coping skills	The intervention seeks to increase students' positive coping skills
	School climate	The intervention seeks to avoid exposing students to trauma or re-traumatizing students
Dosage	Number of sessions	How many times are students are exposed to the intervention, such as the number of lessons for a program and the number of trainings for staff. For some interventions it may be challenging to assess
	Frequency	How often are students exposed to the intervention. This may be once or annually for some programs, or daily for some practices (such as daily meditation)
Approach	Universal	The intervention is intended to benefit all students
	Selected	The intervention is intended to benefit students at risk for impaired functioning (such as those exposed to trauma or exhibiting some symptoms)
	Targeted	The intervention is intended to benefit students exhibiting impaired functioning related to trauma exposure
	Sequenced	The intervention occurs over time and is intended to meet different needs at different developmental stages
Intervention components		
Assessment		The intervention seeks to assess whether a student meets criteria for mental health condition related to trauma (e.g., PTSD, acute stress, depression, anxiety, etc.)
Code of conduct		The intervention outlines behavioral expectations related to trauma or addresses elements of school discipline
Community engagement		The intervention involves collaboration or partnership with community members/organizations, such as community providers of mental health services or other youth/family programs
Counseling		The intervention provides clinical support in an individual or small group format to allow students to process trauma and gain coping skills
Crisis response		The intervention includes immediate and short-term responses to take a potentially traumatic event within a school or community crisis (e.g., natural disaster, school shooting)

Table 1 (continued)

Code		Definition
Informal staff practices		The intervention addresses actions staff can take to support students that may have experienced trauma and are not part of a structured program
Mindfulness		The intervention addresses mindfulness, including things like guided imagery or breath exercises
Ongoing implementation support		The intervention addresses structural supports such as policy changes, establishment of intervention support teams, or other methods that are intended to achieve sustainable improvements in the way the school supports students that have experienced trauma
Parent engagement		The intervention seeks to engage parents, such as through parent meetings or homework that students complete with parents
Peer support		The intervention facilitates youth-led opportunities for youth to support one another. If directed by an adult with mental health training, this would be counseling and not peer support
Physical activity		The intervention includes some movement component, such as yoga or some physical activity
Skills development		The intervention provides opportunities to practice skills, not just talking about them
Psychoeducation		The intervention seeks to increase knowledge related to trauma
Referral		The intervention seeks to link students with unmet mental health needs to school- or community-based services
Safety enforcement		The intervention addresses enforcement of policies to support physical and emotional safety
Screening		The intervention seeks to identify students with exposure to traumatic events or who may be experiencing trauma symptoms (or both)
SEL		The intervention focuses on socio-emotional learning: self-management, self-awareness, social awareness, relationship skills, decision-making
Staff self-care		The intervention addresses staff wellness in the context of supporting students who have experienced trauma, including recognizing and addressing the effects of vicarious trauma
Staff training		The intervention seeks to increase staff knowledge and skills with respect to recognizing and addressing trauma or taking steps to avoid retraumatization of students that have experienced trauma
Technology		The intervention either uses technology or addresses it (such as discussing social media and trauma/coping skills)
Wellness policy		The intervention is reflected in a school wellness policy
Facilitator components		
Role	Administrator	Intervention is appropriate for implementation by school principal, assistant principal, or other school administrator
	General staff	Intervention is appropriate for implementation by any school staff member
	Mental health clinician	Intervention is appropriate for implementation by school psychologist, social worker, counselor, or other mental health clinician
	School nurse	Intervention is appropriate for implementation by school nurse
	Teachers	Intervention is appropriate for implementation by teachers
	Other staff	Intervention is appropriate for implementation by staff in non-clinical, non-instructional, or non-administrative roles (e.g., coaches, community school coordinator, school resource officer)
Training	Yes	Training is explicitly required to implement this intervention
	No	Training is not explicitly required to implement this intervention

Table 1 (continued)

Code		Definition
Scientific rigor		
Study design	Experimental	Study includes a randomized control group
	Quasi-experimental	Study includes a comparison group, including single group comparison or pre-/post-design
	Systematic review	Study uses formal, documented search methodology to review existing literature
	Literature review	Study reviews existing literature without documented search methodology. Includes sources focused on frameworks, general background, reviews of research on a specific program or policy
	Descriptive	Publication primarily describes an intervention or set of interventions without providing assessment of evidence for the intervention itself
Bias assessment		Assessment of the risk of bias for experimental and quasi-experimental studies based on the Cochrane Collaboration Risk of Bias Assessment
Outcomes		
Academic performance		Study measures changes in student academic performance (e.g., test scores, grades)
Aggression		Study measure changes in student aggression including violence as well as disruptive classroom behaviors
Attendance		Study measures changes in student attendance
Coping skills		Study measures changes in student ability to engage in prosocial strategies to deal with stressful situations
School climate		Study measures changes in student engagement, safety, and physical and emotional safety
Staff practices		Study measures changes in the way staff interact with students to establish safe and supportive relationships with school staff as well as their peers
Trauma symptoms		Study measures changes in symptoms commonly associated with trauma exposure, including difficulty concentrating, hyperarousal, and withdrawal
Other mental health symptoms		Study measures changes in mental health functioning related to mood disorders (e.g., depression, anxiety)

Demographics

A majority of the experimental studies focused on elementary schools serving mostly students of color, while quasi-experimental studies spanned all grade levels but focused on middle and high schools serving mostly students of color. Review publications of both types (systematic or literature reviews) and descriptive publications either explicitly addressed K-12 or did not specify any particular grade level; they rarely described the racial or ethnic identity of intervention participants. Nearly all mentions of historically marginalized and underserved groups of students, including youth in foster care or experiencing homelessness, children with special health care needs, and youth who identify as LGBTQ, came from descriptive publications with the exception of one literature review that mentioned LGBTQ students (Biegel & Kuehl, 2010) and one that mentioned youth in foster care (Berardi & Morton, 2017).

Intervention Characteristics

Overall, the strength of evidence across intervention characteristics was uneven, favoring Tier 2 programs delivered by mental health professionals in health and wellness settings. Practices and policies—especially those that target whole-school or classroom approaches delivered by teachers or other non-clinical school staff—were most often described in descriptive publications and literature reviews. Both programs and practices were mentioned frequently, although rigorous studies tended to focus on programs while descriptive publications focused more on practices. All three MTSS tiers were also mentioned frequently. Tier 1 interventions were mostly discussed in descriptive publications, while Tier 2 interventions were more likely to be the focus of experimental and quasi-experimental studies. Whole-school approaches were the most frequently mentioned

Table 2 Summary of reviewed publications

Publication	MTSS tiers	Population	Intervention components	Facilitators	Key findings
Experimental					
Aber, Brown, Jones, Berg, and Torrente (2011)	1	K-5th	SEL	Teachers	4Rs improved student aggression, academics, depressive symptoms, and attention
Dariotis, Mendelson, and Blanchard (2011)	1	3rd–5th Majority students of color	Mindfulness/relaxation, physical activity, skill development and practice	Not specified	A mindfulness-based intervention improved coping skills and emotional regulation including intrusive thoughts and emotional arousal
Langley et al. (2015)	2	1st–5th	Assessment, counseling, mindfulness/relaxation, ongoing implementation supports, parent engagement, psychoeducation, referral, SEL, screening, skill development, whole group discussion	Mental health clinicians	Bounce Back produced differential treatment effects including improved PTSD and anxiety symptoms and marginally significant improvements in depression and coping
Mendelson, Tandon, O'Brennan, Leaf, and Ialongo (2015)	1	6th–8th Majority students of color	Counseling, mindfulness/relaxation, psychoeducation, SEL, skill development and practice	Mental health clinicians, other staff	RAP Club resulted in improved teacher-rated measures of emotional regulation, academics, and behavior, but did not improve student self-report of any outcomes
Salloum and Overstreet (2012)	2,3	K-8th Majority students of color	Counseling, mindfulness/relaxation, parent engagement, peer support, role plays, skill development and practice	Mental health clinicians	GTI with coping skills plus narrative construction and GTI with coping skills resulted in improved PTSD symptoms, perceived social support, and externalizing symptoms, although the effects on externalizing symptoms for GTI without narrative construction faded over time
Santiago et al. (2018)	2	K-5th Majority students of color, ELL	Assessment, counseling, mindfulness/relaxation, ongoing implementation supports, parent engagement, psychoeducation, screening, skill development and practice, whole group discussion	Mental health clinicians	Bounce Back produced differential treatment effects including improved PTSD symptoms and coping skills but did not produce significant changes in depression or anxiety symptoms or in teacher-reported classroom behavior

Table 2 (continued)

Publication	MTSS tiers	Population	Intervention components	Facilitators	Key findings
Quasi-experimental					
Allison and Ferreira (2017)	3	3rd–8th Majority students pf color Hispanic	Counseling, informal staff responses, mindfulness/relaxation, parent engagement, peer support, psychoeducation, skill development, small group discussion, staff training/knowledge	Mental health clinicians	Students who participated in CBITS in Spanish experienced improved trauma and depressive symptoms
Beehler et al. (2012)	2,3	K–12th Majority students of color Immigrant	Assessment, community and parent engagement, counseling, cultural competence, mindfulness/relaxation, psychoeducation, referral, screening, skill development, staff training/knowledge	Mental health clinicians	Students participating in CATS experienced improved PTSD symptoms and reduced functional impairment
Day et al. (2015)	1,2	9th–12th Majority students of color Female Court-involved	Code of conduct, cultural competence, ongoing implementation supports, psychoeducation, role plays, skill development and practice, staff self-care, staff training/knowledge	General school staff	Students who participated in a modified version of the Heart of Teaching and Learning curriculum experienced improved PTSD symptoms, no effect on self-esteem, and increased student reports of having unmet needs
Dorado, Martinez, McArthur, and Leibovitz (2016)	1,2,3	K-8th Majority students of color	Code of conduct, cultural competence, individualized plans, informal staff responses, ongoing implementation supports, parent engagement, policy, psychoeducation, SEL, skill development, staff self-care, staff training/knowledge	General school staff, mental health clinicians, teachers, other staff	Staff participating in HEARTS reported improved understanding of trauma and use of trauma-sensitive practices. Students reported improved school climate, improved academic achievement, and reduced aggression and trauma symptoms
Ellis et al. (2013)	2,3	6th–8th Majority students of color Immigrant	Assessment, community and parent engagement, counseling, cultural competence, ongoing implementation supports, referral, screening, skill development, whole group discussion	Mental health clinicians	Students who participated in Project SHIFA experienced improved PTSD and depression symptoms and decreased resource hardships
Goodkind et al. (2010)	2	6th–12th Majority students of color American Indian	Community and parent engagement, counseling, cultural competence, mindfulness/relaxation, psychoeducation, screening, skill development and practice, staff training/knowledge	Mental health clinicians	Students who participated in a culturally adapted version of CBITS experienced improved PTSD and anxiety symptoms and decreased avoidant coping. No improvements in active coping, support seeking, or distraction coping strategies

Table 2 (continued)

Publication	MTSS tiers	Population	Intervention components	Facilitators	Key findings
Graham, Osofsky, Osofsky, and Hansel (2017)	2,3	3rd–12th	Counseling, mindfulness/relaxation, parent engagement, psychoeducation, skill development	Mental health clinicians	Students who participated in mental health services delivered through the Louisiana Rural Trauma Services Center (including TF-CBT and CBITS) experienced improved trauma symptoms, anger, and depression
Gudiño, Leonard, and Cloitre (2016)	2	6th–12th Majority students of color Female	Assessment, counseling, mindfulness/relaxation, psychoeducation, role plays, SEL, skill development and practice, whole group discussion	Mental health clinicians	Students who participated in STAIR-A experienced improved attributes of resilience and reductions in depressive and anxiety symptoms. They did not find significant differences in PTSD symptoms
Hansel et al. (2010)	2,3	K–12th	Community engagement, counseling, crisis response, informal staff responses, ongoing implementation supports, psychoeducation, referral, screening, skill development, staff training/knowledge	Mental health clinicians	Students who participated in mental health services in schools through the Louisiana Rural Trauma Services Center (including TF-CBT) had improved PTSD symptoms, anxiety, and depression. No significant differences for hyperresponse, anger, or dissociation
Herres et al. (2017)	2,3	6th–8th	Counseling, psychoeducation, referral, SEL, screening, skill development, whole group discussion	Mental health clinicians	Students who participated in TCGTA experienced reductions in problem severity
Ho, Tsao, Bloch, and Zeltzer (2011)	1	5th Majority students of color Poverty	Mindfulness/relaxation, physical activity, SEL, whole group discussion	Mental health clinicians	Students who participated in whole-class drumming sessions experienced improved internalizing and post-traumatic stress problems, they found no significant effect on externalizing problems
Hoover et al. (2018)	2,3	K–12th	Assessment, mindfulness/relaxation, parent engagement, psychoeducation, screening, skill development and practice, staff training/knowledge, whole group discussion	Mental health clinicians	This article describes a statewide implementation of CBITS. The authors found that children who participated in CBITS experienced improved child PTSD symptoms, child problem severity, and child functioning

Table 2 (continued)

Publication	MTSS tiers	Population	Intervention components	Facilitators	Key findings
Ijadi-Maghsoodi et al. (2017)	1	9th–12th Majority students of color	Assessment, community engagement, cultural competence, ongoing implementation supports, peer support, policy, psychoeducation, role plays, SEL, screening, skill development and practice, whole group discussion	Mental health clinicians	Students who participated in a culturally adapted version of Resilience Classroom Curriculum experienced improved participation in needed services, coping skills, resilience, and staff engaged in more supportive staff practices
Klontz, Bivens, Michels, DeLeon, and Tom (2015)	2,3	PreK–12th Majority students of color Native Hawaiian	Assessment, community and parent engagement, counseling, crisis response, cultural competence, individualized plans, ongoing implementation supports, policy, psychoeducation, referral, skill development, staff training/knowledge	Mental health clinicians	Students who participated in treatment as part of the Mokihana Program experienced improved student behavior, aggression, depression, and attention
Lyon et al. (2015)	2	9th–12th	Assessment, counseling, ongoing implementation supports, psychoeducation, referral, SEL, screening, skill development and practice, whole group discussion	Mental health clinicians	Students that participated in BRISC experienced improved coping skills, anxiety, and service linkages based on qualitative interviews
Morsette, van den Pol, Schuldberg, Swaney, and Stolle (2012)	2	5th–8th Majority students of color American Indian	Community and parent engagement, counseling, cultural competence, mindfulness/relaxation, peer support, SEL, screening, skill development, small group discussion, staff training/knowledge	School counselors Community elders	Students who participated in a culturally adapted version of CBITS for American Indian students experienced significant improvements in trauma symptoms and marginally reduced depression
Perry and Daniels (2016)	1,2,3	PreK-8th Majority students of color	Assessment, community and parent engagement, individualized plans, mentoring, ongoing implementation supports, psychoeducation, referral, SEL, screening, skill development, small group discussion, staff self-care, staff training/knowledge	Administrators, teachers, general school staff	In a pilot of a multi-tiered approach to addressing trauma, staff reported satisfaction with trainings; referrals for care coordination services exceeded expectations; students participating in psychoeducation workshops reported increased knowledge of how to relax; and fewer students participating in CBITS met criteria for PTSD after the program

Table 2 (continued)

Publication	MTSS tiers	Population	Intervention components	Facilitators	Key findings
Santiago, Lennon, Fuller, Brewer, and Kataoka (2014)	2	3rd–8th Majority students of color Hispanic	Counseling, mindfulness/relaxation, parent engagement, psychoeducation, screening, skill development, whole group discussion	Mental health clinicians	Students and their families who participated in CBITS + Family experienced increased parental involvement in school, improved attitudes toward mental health, and decreased inconsistent discipline compared to standard CBITS. CBITS + Family was not associated with larger improvements in problem behaviors, depression, or adaptive coping skills
Taku, Cann, Tedeschi, and Calhoun (2017)	1	9th–12th Majority students of color Japan	Psychoeducation, SEL	Not specified	Students who participated in a psychoeducational intervention about post-traumatic growth reported improved knowledge of trauma impacts among students
Systematic Review					
Brunzell, Stokes, and Waters (2016)	1	Not specified	Informal staff responses, mindfulness/relaxation, physical activity, SEL, skill development and practice, staff training/knowledge	Teachers	This article presents a systematic review of trauma-informed interventions. The authors propose a strengths-based Trauma-Informed Positive Education (TIPE) approach to addressing trauma
Eklund, Rossen, Koriakin, Chafouleas, and Resnick (2018)	1,2,3	PreK–12th	Screening	Mental health clinicians	This article presents a systematic review of available trauma-related screening measures related to use with children and youth. The authors found very little psychometric evidence to support the use of these measures in schools
Forman-Hoffman et al. (2013)	2,3	Not specified	Counseling, mindfulness/relaxation, parent engagement, physical activity, psychoeducation, SEL, screening, skill development and practice, whole group discussion	Mental health clinicians, general school staff	This report presents a systematic review of interventions that target traumatic stress among children exposed to trauma other than maltreatment or family violence. Among school-based interventions, the authors found mixed results, although CBT interventions were generally effective

Table 2 (continued)

Publication	MTSS tiers	Population	Intervention components	Facilitators	Key findings
Rolfsnes and Idsoe (2011)	2,3	K–12th Immigrant	Mindfulness/relaxation, psychoeducation	Mental health clinicians, teachers	This article presents a systematic review and meta-analysis of school-based programs targeted at reducing symptoms of post-traumatic stress disorder (PTSD). The authors found that many CBT interventions improved depression and anxiety symptoms. There was less evidence for non-CBT interventions
Zakszeski et al. (2017)	1,2,3	K-5th	Code of conduct, counseling, cultural competence, parent engagement, psychoeducation, SEL, screening, staff self-care, staff training/knowledge	Mental health clinicians, administrator, teachers, general school staff	This article presents a systematic review of trauma-focused practices in elementary schools. The authors note that most evaluations focused on high-intensity interventions delivered by mental health clinicians
Literature Review					
Berardi and Morton (2017)	1	Pre K–12th Foster care	Code of conduct, community engagement, informal staff responses, policy, psychoeducation, staff training/knowledge	General school staff	This article summarizes research on trauma experiences of youth in foster care and highlights the need for trauma-informed supports in schools. The authors present a research-informed framework
Biegel and Kuehl (2010)	1	LGBT	Community and parent engagement, policy, referral, safety enforcement, staff training/knowledge	Administrator, teachers, general school staff	This brief reviews policy and legislation that addresses safety within school environments for LGBT students. The authors provide recommendations for schools to ameliorate safety concerns and address trauma for LGBT students
Brunzell, Waters, and Stokes (2015)	1	Not specified	Informal staff responses, mindfulness/relaxation, psychoeducation, skill development and practice, staff training/knowledge	Teachers	This article reviews the effects of trauma on children and summarizes the literature describing programs and practices that can be implemented in schools to improve self-regulation and resiliency in students

Table 2 (continued)

Publication	MTSS tiers	Population	Intervention components	Facilitators	Key findings
Chafouleas et al. (2016)	1,2,3	Not specified	Code of conduct, community and parent engagement, counseling, cultural competence, ongoing implementation supports, policy, psychoeducation, SEL, safety enforcement, screening, skill development and practice, staff training/knowledge, wellness policy	Mental health clinicians, teachers, general school staff	This article reviews the literature on trauma-informed approaches and multi-tiered frameworks for school-based service delivery. The authors present a trauma-informed professional development blueprint for schools
Chafouleas, Koriakin, Roundfield, and Overstreet (2018)	2,3	K–12th Immigrant Native American	Cultural competence, individualized plans, informal staff responses, mindfulness/relaxation, parent engagement, psychoeducation, skill development and practice, small and whole group discussion, staff training/knowledge	Mental health clinicians, teachers	This article reviews evidence for trauma-specific interventions targeted to students exhibiting negative symptoms. The authors discuss the potential to maximize the effects of trauma-focused interventions by integrating those interventions into school-wide, tiered approaches
Eklund and Rossen (2016)	1,2,3	Not specified	Informal staff responses, referral, screening, skill development and practice, staff training/knowledge	Mental health clinicians	This brief provides an overview of the literature on the role of screening and assessment in the identification of trauma. The authors caution that few studies clearly articulate best practices for school-based screening procedures and methods for identifying trauma-exposed youth
Humphrey and Wigelsworth (2016)	1	Not specified	Referral, screening, staff training/knowledge	Not specified	This article reviews the literature with respect to opportunities and challenges posed by universal school-based mental health screening. The authors conclude that universal screening in schools holds promise, but that many critical questions remain unanswered

Table 2 (continued)

Publication	MTSS tiers	Population	Intervention components	Facilitators	Key findings
Jaycox et al. (2012)	2,3	3rd–12th Immigrant Native American	Counseling, cultural competence, individualized plans, mindfulness/relaxation, ongoing implementation supports, parent engagement, psychoeducation, screening, skill development and practice, small and whole group discussions, staff training/knowledge	Mental health clinicians, teachers	This article describes the original development of CBITS and summarizes the evidence for its effectiveness and describes recent modifications for special populations
Jaycox, Stein, and Wong (2014)	1,2,3	Not specified	Community and parent engagement, counseling, crisis response, individualized plans, mindfulness/relaxation, psychoeducation, referral, SEL, safety enforcement, screening, skill development, small and whole group discussion, staff self-care, staff training/knowledge	Mental health clinicians, administrators, teachers, general school staff, school nurse, other staff	This article reviews the literature describing the role schools can play in supporting students to heal from trauma and disaster. The authors discuss several existing interventions, including Psychological First Aid for Schools
Kataoka, Langley, Wong, Baweja, and Stein (2012)	1,2	Not specified	Community and parent engagement, crisis response, informal staff responses, psychoeducation, SEL, skill development	Mental health clinicians, teachers, general school staff	This article reviews the effects of trauma on children and summarizes the literature describing several trauma-focused programs and practices that are evidence-based or evidence-informed
Little, Akin-Little, and Somerville (2011	1,2,3	3rd–12th	Community and parent engagement, counseling, cultural competence, mindfulness/relaxation, psychoeducation, skill development	Not specified	This article summarizes the research on CBITS and TF-CBT. The authors describe the implementation of both programs within the Project Fleur-de-lis, a three-tier service delivery model. Both interventions were associated with improved PTSD symptoms
Manekin (2016)	1,2,3	K-5th Poverty	Assessment, community and parent engagement, counseling, crisis response, individualized plans, mentoring, ongoing implementation support, referral, SEL, screening, technology	Mental health clinicians, teachers	This report reviews evidence for the City Connects model with respect to its effectiveness in supporting academic performance and attendance. The authors note that the model holds promise for ameliorating sources of trauma

Table 2 (continued)

Publication	MTSS tiers	Population	Intervention components	Facilitators	Key findings
Martin et al. (2017)	1	9th–12th	Code of conduct, counseling, informal staff responses, policy, referral, staff training/knowledge	Mental health clinicians, administrators, teachers, general school staff	This article reviews literature on the prevalence of childhood trauma and presents information on trauma-informed approaches in schools. The authors conclude that trauma-informed approaches should be integrated into adolescent pregnancy prevention programs and describes federal efforts to do so
Morgan, Salomon, Plotkin, and Cohen (2014)	1,2,3	PreK–12th	Code of conduct, community engagement, crisis response, individualized plans, policy, referral, safety enforcement, staff training/knowledge	Not specified	This report reviews the literature on school discipline including ways in which school discipline can create or exacerbate trauma. The authors highlight trauma-informed approaches as a strategy to improve school discipline policies and practices
Openshaw (2011)	1,2,3	K–12th	Community and parent engagement, counseling, crisis response, cultural competence, mindfulness/relaxation, psychoeducation, referral, skill development and practice, small group discussion, staff training/knowledge	Mental health clinicians	This article reviews the literature related to addressing trauma and grief related to crises in schools, including psychological first aid. The authors conclude that quick professional response through organizing and offering children's support groups can help increase school stability and alleviate the effects of traumatic events
Overstreet and Mathews (2011)	1,2,3	Not specified	Community and parent engagement, counseling, cultural competence, ongoing implementation supports, psychoeducation, SEL, skill development, staff training/knowledge, whole group discussion	Mental health clinicians, teachers	This article reviews the effects of trauma exposure on the psychosocial and academic functioning of children. The authors discuss a public health framework for building social–emotional protective factors into the school setting to foster resilience to trauma

Table 2 (continued)

Publication	MTSS tiers	Population	Intervention components	Facilitators	Key findings
Plumb et al. (2016)	1,2,3	Not specified	Assessment, code of conduct, community and parent engagement, counseling, crisis response, individualized plans, mentoring, ongoing implementation supports, psychoeducation, SEL, skill development, small group discussion, staff self-care, staff training/knowledge	Mental health clinicians, administrators, teachers, other staff	This article reviews the literature on the effects of trauma and adverse experiences on children. The authors present a logic model intended to assist schools in creating a framework for a healthy school ecosystem that addresses the needs of the whole child
Reinbergs and Fefer (2018)	1,2,3	PreK–12th	Assessment, code of conduct, counseling, crisis response, informal staff responses, ongoing implementation supports, parent engagement, referral, SEL, screening, staff self-care, staff training/knowledge, wellness policy	Mental health clinicians, administrators, teachers	This article provides examples from the literature of assessment, intervention, and practitioner support related to addressing childhood trauma in schools within an MTSS framework. The authors conclude that further evidence is needed in many areas of school services
Sypniewski (2016)	2,3	6th–12th	Counseling, informal staff responses	School nurse	This article provides an overview of the literature on motivational interviewing (MI) as an effective intervention for trauma-informed care for school nurses
Szumilas, Wei, and Kutcher (2010)	2	Not specified In crisis	Crisis response	General school staff, school mental health clinicians	This article reviews the literature on psychological debriefing. The authors conclude that psychological debriefing may worsen PTSD symptoms and that Psychological First Aid and CBITS show promise as more effective interventions
Wiest-Stevenson and Lee (2016)	1	Not specified	Code of conduct, informal staff responses, ongoing implementation supports, peer support, policy, psychoeducation, skill development, staff training/knowledge	Administrators, teachers, general school staff	This article outlines the impact of trauma on children within school systems and presents a trauma-informed school model. The authors conclude that more research is needed for a district-wide and community-wide approach to comprehensively address traumatic events

Table 2 (continued)

Publication	MTSS tiers	Population	Intervention components	Facilitators	Key findings
Descriptive					
Anderson, Blitz, and Saastamoinen (2015)	1	PreK-5th	Informal staff responses, staff self-care, staff training/knowledge	Mental health clinicians	This article describes a process of developing and implementing a series of professional development workshops on trauma-informed practices. The authors conclude that more attention to implementing school-wide trauma-informed approaches in the design and structure of professional development for all school personnel is needed
Blitz and Lee (2015)	1	3rd–8th	Cultural competence, screening	Not specified	This article reports baseline data for students in participating schools including indicators related to bullying and school climate. The authors describe efforts to use the data to integrate a trauma-informed approach into a bullying intervention
Brymer et al. (2012)	1	Not specified	Community and parent engagement, crisis response, cultural competence, individualized plans, mindfulness/relaxation, ongoing implementation supports, peer support, psychoeducation, referral, safety enforcement, screening, skill development, small group discussion	Mental health clinicians, administrators, teachers, general school staff, school nurse, other staff	This guide was developed by the National Child Traumatic Stress Network and the National Center for PTSD to support delivery of Psychological First Aid in Schools. The authors conclude that PFA-S has potential to mitigate the development of severe mental health problems or long-term difficulties by identifying individuals who may need additional services after a crisis and linking them to needed services

Table 2 (continued)

Publication	MTSS tiers	Population	Intervention components	Facilitators	Key findings
Charuvastra, Goldfarb, Petkova, and Cloitre (2010)	1,2	3rd–5th Witnessed suicide at school	Ongoing implementation supports, referral, screening	Teachers	This article summarizes efforts to integrate a brief screen and referral to treatment approach among primary school-aged children for PTSD following a public and high-magnitude traumatic event in a school setting. The authors conclude that screen and treat programs using existing clinical instruments are efficient and acceptable for use in schools following a traumatic event
Dever and Raines (2013)	1	6th–12th Majority students of color Poverty Special education	Screening	Mental health clinicians	This paper reports on the feasibility of the Behavioral and Emotional Screening System among middle and high school students. The authors caution that a clear "gold standard" among school-based screening measures has yet to emerge and more research is needed
Dowdy et al. (2015)	1	9th–12th Majority students of color	Assessment, community and parent engagement, counseling, individualized plans, ongoing implementation supports, referral, screening, staff training/knowledge	Mental health clinicians, administrators, teachers, general school staff, other staff	This article describes a universal screening consultation model to identify students in need of mental health services. The authors conclude that the model was useful in moving toward preventive and promotive approaches but caution that such screenings should not be the sole determinant of student needs
Dowdy et al. (2016)	1	9th–12th Majority students of color	Screening	General school staff	This article examined the predictive validity of the Behavior Assessment System for Children-2 Behavioral and Emotional Screening System Student Form (BESS Student). The authors concluded that the BESS Student scores were predictive of internalizing symptoms concurrently, but were less predictive over time and were most accurate for females

Table 2 (continued)

Publication	MTSS tiers	Population	Intervention components	Facilitators	Key findings
Evers (n.d.)	1,2,3	PreK–12th	Assessment, code of conduct, community and parent engagement, counseling, individualized plans, informal staff responses, mentoring, ongoing implementation supports, physical activity, policy, psychoeducation, referral, SEL, safety enforcement, screening, skill development and practice, small and whole group discussion, staff self-care, staff training/knowledge	Mental health clinicians, teachers, general school staff	This brief describes the effects of childhood trauma, outlines principles of trauma-informed care, and highlights the ways in which trauma-informed practices can be integrated within PBIS to improve trauma-sensitive practices
Field, Wehrman, and Yoo (2017)	1,2	Not specified	Informal staff responses, parent engagement, referral, skill development and practice	Teachers	This article describes Psychological First Aid (PFA) and highlights potential benefits of training teaching professionals in its use. The authors conclude that training educators in PFA can expand the impact of trauma-informed programs in schools
Fitzgerald and Cohen (2012)	2,3	PreK–12th	Assessment, counseling, mindfulness/relaxation, ongoing implementation supports, parent engagement, psychoeducation, SEL, safety enforcement, skill development and practice, small group discussion, staff training/knowledge	Mental health clinicians	This article describes the effects of trauma on children and outlines strategies for addressing trauma including screening students, training staff, and implementing TF-CBT. The authors conclude that there are many benefits and challenges to integrating trauma screening and TF-CBT into the school setting
Gonzalez, Monzon, Solis, Jaycox, and Langley (2016)	1	K-5th Majority students of color	Referral, screening	Mental health clinicians, other staff	This article describes modifications that were made in the administration of self-report trauma screeners for young children. The authors concluded that the screening procedures were successfully implemented with young children using modified administration of instruments

Table 2 (continued)

Publication	MTSS tiers	Population	Intervention components	Facilitators	Key findings
Guarino and Chagnon (2018a)	1	K–12th	Assessment, code of conduct, community and parent engagement, counseling, crisis response, cultural competence, individualized plans, informal staff responses, ongoing implementations supports, policy, psychoeducation, SEL, safety enforcement, skill development, staff self-care, staff training/knowledge, wellness policy	Administrators, general school staff	Leading Trauma-Sensitive Schools is a module within the Trauma-Sensitive Schools Training Package. It introduces a multi-phased process for adopting a trauma-sensitive approach in schools. The guide includes recommendations for how to facilitate in-person group training sessions with leadership teams using the module and action guide
Guarino and Chagnon (2018b)	1	PreK–12th	Assessment, code of conduct, community and parent engagement, counseling, crisis response, cultural competence, individualized plans, informal staff responses, ongoing implementations supports, mindfulness/relaxation, policy, psychoeducation, SEL, safety enforcement, skill development, small group discussion, staff self-care, staff training/knowledge, wellness policy	Mental health clinicians, administrators, teachers, school nurse, other staff	Building Trauma-Sensitive Schools is a module within the Trauma-Sensitive Schools Training Package. It includes information on the concept of trauma sensitivity and includes examples of trauma-sensitive strategies that can be employed school-wide. Accompanying the module is a series of handouts, including checklists, activities, practice guides, and discussion questions, for supporting staff in adopting a trauma-sensitive approach
Guarino and Chagnon (2018c)	1	PreK–12th	Psychoeducation, small and whole group discussion, staff self-care, staff training/knowledge	Mental health clinicians, administrators, general school staff teachers, school nurse, other staff,	Understanding Trauma and Its Impact is a module within the Trauma-Sensitive Schools Training Package. It includes information on the prevalence and impact of trauma and implications for schools. Resources include an interactive e-resource and a companion slide presentation and activity packet for in-person training

Table 2 (continued)

Publication	MTSS tiers	Population	Intervention components	Facilitators	Key findings
Hoover and Lever (2017)	1,2,3	PreK–12th	Code of conduct, community and parent engagement, counseling, cultural competence, informal staff responses, ongoing implementation supports, policy, psychoeducation, referral, SEL, screening, staff training/knowledge	Mental health clinicians, teachers, general school staff	This briefing document describes comprehensive school mental health systems. It highlights the benefits of school-based approaches to mental health within MTSS models. The brief references a framework for engaging stakeholders and also outlines common sources of funding
Immerfall and Ramirez (2019)	1,2	Not specified	Counseling, informal staff responses, psychoeducation, referral, screening, skill development, staff training/knowledge	Mental health clinicians, general school staff, school nurse	This article describes Link for Schools, a multi-tiered evidence-informed staff training for school staff regarding how to support students experiencing trauma that incorporates PFA and MI. The authors conclude that LINK can support school nurses in meeting the needs of students experiencing trauma
Izard (2016)	1	PreK–12th Poverty	Informal staff responses, mindfulness/relaxation, referral, SEL, skill development, staff self-care, staff training/knowledge	Teachers, general school staff	This handbook provides educators with information about the effects of poverty and trauma and describes strategies to work with students experiencing trauma
James, Logan, and Davis (2011)	1	K–12th	Code of conduct, crisis response, safety enforcement	Other staff	This article discusses the potential role of School Resource Officers (SROs) in school-based crisis response efforts. The authors present several case examples from one school district
Kim, Dowdy, Furlong, and You (2017)	1	6th–12th Majority students of color Korean	Screening	Teachers	This article reports on a mental health screening approach that considers student strengths, in addition to symptoms of distress. The authors conclude that dual-factor screening can identify strengths as well as unmet needs and may help to reduce stigma

Table 2 (continued)

Publication	MTSS tiers	Population	Intervention components	Facilitators	Key findings
Langley et al. (2013)	2,3	K-5th Majority students of color Hispanic	Community and parent engagement, cultural competence, psychoeducation, skill development and practice, staff training/knowledge	Mental health clinicians, teachers, administrators, parents	This article summarizes focus groups conducted with school staff and parents as part of a participatory approach to developing Bounce Back. Participants identified parent education and raising awareness of the impact of student mental health among educators as important considerations
Larson, Spetz, Brindis, and Chapman (2017)	1,2,3	K–12th	Assessment, crisis response, individualized plans, peer support	Mental health clinicians, school nurse, other staff	This article describes factors associated with SBHCs staffed with mental health providers compared with those that are not. The authors found that 70% of SBHCs in the study had a mental health provider and that they were more likely to serve high school students and have more organizational resources
Lever et al. (2015)	1,2,3	K–12th	Assessment, code of conduct, community and parent engagement, individualized plans, mentoring, ongoing implementation supports, psychoeducation, referral, SEL, screening, skill development and practice	Mental health clinicians, administrators, teachers, school nurse, other staff	This report describes community-partnered school behavioral health and makes recommendations for expanding such efforts in Maryland. The report makes several references to trauma-informed interventions
Love and Cobb (2012)	1	Not specified	Community engagement, crisis response, informal staff responses, ongoing implementation supports, policy, psychoeducation, safety enforcement, staff self-care, staff training/knowledge	Mental health clinicians, administrators, school nurse, other staff	This article describes the development and implementation of Tennessee Schools PREPARE, an initiative to educate school staff about how to respond to crises, including how to provide effective post-crisis supports

Table 2 (continued)

Publication	MTSS tiers	Population	Intervention components	Facilitators	Key findings
McCrea, Guthrie, and Bulanda (2016)	2,3	PreK–12th Majority students of color Poverty	Assessment, counseling, crisis response, cultural competence, individualized plans, safety enforcement	Mental health clinicians, teachers	This article describes the development of the Empowering Counseling Program using a participatory action approach to better meet the needs of youth experiencing complex trauma, including concurrent trauma. The authors conclude that youth experiencing concurrent trauma require different treatment guidelines than youth whose trauma is not concurrent
Nadeem, Jaycox, Kataoka, Langley, and Stein (2011)	1,2,3	5th–9th Majority students of color Immigrant	Community and parent engagement, counseling, mindfulness/relaxation, ongoing implementation support, peer support, policy, psychoeducation, SEL, screening, skill development and practice, small group discussion, staff training/knowledge	Mental health clinicians, teachers	This article describes two qualitative case studies that focus on implementation of CBITS at district and school levels at a large scale. The authors emphasize the importance of the pre-implementation phase and clinical supervision to support fidelity and highlight the need to understand evidence-based interventions within the context of the implementing sites
National Association of School Psychologists (2017)	1,2,3	Not specified	Assessment, code of conduct, community and parent engagement, crisis response, informal staff responses, mentoring, ongoing implementation supports, policy, referral, SEL, safety enforcement, screening, skill development and practice, small group discussion, staff self-care, staff training/knowledge, wellness policy	Mental health clinicians, administrators, teachers, general school staff, other staff	In this brief, NASP provides policy recommendations for implementing the Framework for Safe and Successful Schools. Recommendations include integration of services and initiatives and implementation of integrated MTSS
National Child Traumatic Stress Network (2017a)	1	PreK–12th Racial or ethnic minority	Code of conduct, cultural competence, informal staff responses, physical activity, SEL, safety enforcement, staff self-care, staff training/knowledge, whole group discussion	Teachers	This is a tip sheet that provides guidance for educators in how to speak to students about the interplay of race and trauma. The tip sheet reviews trauma, historical trauma, racial trauma, and effects of racial trauma by age-group and outlines practical recommendations for educators

Table 2 (continued)

Publication	MTSS tiers	Population	Intervention components	Facilitators	Key findings
National Child Traumatic Stress Network (2017b)	1,2,3	PreK–12th	Assessment, code of conduct, community and parent engagement, counseling, crisis response, cultural competence, individualized plans, mindfulness/relaxation, ongoing implementation supports, policy, psychoeducation, referral, SEL, safety enforcement, screening, skill development, staff self-care, staff training/knowledge, wellness policy	Administrators, teachers, other staff	This brief describes the National Child Traumatic Stress Network's System Framework for Trauma-Informed Schools. It describes several considerations as well as the 10 Core Areas, including relevant tiered approaches
National Child Traumatic Stress Network (2018)	1,2,3	K–12th	Assessment, code of conduct, community and parent engagement, counseling, crisis response, cultural competence, informal staff responses, ongoing implementation supports, policy, psychoeducation, referral, SEL, safety enforcement, screening, skill development and practice, staff self-care, staff training/knowledge, wellness policy	Administrators, teachers, general school staff, other staff	This policy brief provides an overview of the National Child Traumatic Stress Network's System Framework for Trauma-Informed Schools which identifies 10 Core Areas of a trauma-informed school system
NEA Education Policy and Practice Department (2019)	1	PreK–12th Poverty	Informal staff responses, SEL	Teachers, general school staff	This brief provides strategies for educators working with students experiencing trauma
Pickens and Tschopp (2017)	1,2,3	Not specified	Code of conduct, community engagement, counseling, mindfulness/relaxation, SEL, safety enforcement, screening, skill development and practice, staff self-care	Mental health clinicians, administrators, teachers, general school staff, other staff	This Technical Assistance Bulletin provides an overview of trauma and describes ways in which classrooms can better meet the needs of students experiencing trauma. It includes a case study of efforts in Baltimore, Maryland to better meet the needs of students in the city receiving special education
RB-Banks and Meyer (2017)	1	Not specified	Informal staff responses, physical activity, psychoeducation	Mental health clinicians, teachers	This article summarizes discussions with teacher candidates after several meetings with a mental health clinician with expertise in treating trauma

Table 2 (continued)

Publication	MTSS tiers	Population	Intervention components	Facilitators	Key findings
Resler (2017)	1	PreK–12th	Code of conduct, counseling, crisis response, informal staff responses, mindfulness/relaxation, ongoing implementation supports, parent engagement, peer support, skill development and practice, staff training/knowledge	General school staff	This brief reviews the effects of trauma and highlights several recommendations at the staff and school level for mitigating the effects of trauma
Rossen and Cowan (2013)	1,2,3	PreK–12th	Code of conduct, community and parent engagement, crisis response, cultural competence, ongoing implementation supports, physical activity, safety enforcement, staff training/knowledge	Not specified	This brief describes the effects of trauma and offers strategies such as aligning efforts with MTSS systems of support and partnering with families and the community to provide comprehensive supports
Santiago et al. (2016)	2,3	Not specified Majority students of color Hispanic	Cultural competence, parent engagement	Mental health clinicians	This article explored Latino parents' responses to CBITS + Family. The authors concluded that parents experienced high levels of satisfaction with the program noting that it was relevant to their cultural values
Schultz et al. (2010)	2	5th–9th Majority students of color Foster care	Community and parent engagement, counseling, individualized plans, mindfulness/relaxation, ongoing implementation supports, psychoeducation, referral, SEL, screening, skill development and practice, staff training/knowledge, whole group discussion	Mental health clinicians, teachers	This is a toolkit that can be used to adapt CBITS or SSET for use with youth in foster care to improve behavior, mental health, and trauma symptoms
Schultz et al. (2012)	2,3	3rd–8th Foster care	Counseling, mindfulness/relaxation, parent engagement, psychoeducation, SEL, skill development and practice, staff training/knowledge, whole group discussion	Mental health clinicians, teachers, general school staff	This article describes a toolkit to help school-based mental health professionals, school personnel, and child welfare social workers adapt CBITS and SSET for use with youth in foster care
Substance Abuse and Mental Health Services Administration (2012)	1	PreK–12th	Informal staff responses, physical activity, skill development and practice, staff self-care, staff training/knowledge	Teachers	This is a tip sheet that provides guidance for parents, caregivers, and teachers in speaking to children about trauma and recognizing trauma symptoms in children

Table 2 (continued)

Publication	MTSS tiers	Population	Intervention components	Facilitators	Key findings
Taylor and Serim (2015)	1,2,3	K–12th	Assessment, code of conduct, community and parent engagement, counseling, cultural competence, mentoring, ongoing implementation supports, policy, psychoeducation, referral, screening, skill development, small group discussion, staff self-care, staff training/knowledge	Mental health clinicians, teachers, general school staff	This report summarizes lessons from The Kaiser Permanente Youth and Trauma-Informed Care Grants. The report includes implementation successes and challenges
Wolpow, Johnson, Hertel, and Kincaid (2016)	1	Not specified	Community and parent engagement, cultural competence, individualized plans, informal staff responses, mindfulness/relaxation, ongoing implementation supports, peer support, SEL, staff self-care, staff training/knowledge, whole group discussion	Mental health clinicians, administrators, teachers, other staff	This guide describes The Heart of Learning and Teaching: Compassion, Resilience, and Academic Success. It includes descriptions of the effects of childhood trauma and highlights practical strategies that school staff can implement with respect to self-care; classroom instruction; and community partnerships

setting, but similar to the MTSS tiers, most of those mentions occurred in descriptive publications with fewer than one in five experimental or quasi-experimental studies focusing on whole-school approaches. The most rigorous studies focused almost exclusively on interventions delivered in health and wellness settings such as in a counselor's office. Mental health clinicians and classroom teachers were each described as primary implementers in approximately half of the publications. Notably, mental health clinicians were mentioned across all levels of rigor in this review, while classroom teachers were primarily mentioned in descriptive publications and literature and systematic reviews, but rarely mentioned in experimental or quasi-experimental studies. Aligned with the findings for implementers, training requirements were explicitly mentioned in the majority of experimental and quasi-experimental studies and were not explicitly mentioned in about three quarters of literature and systematic reviews as well as the descriptive publications. It is important to note that more than half of the review and descriptive publications were classified as "unclear" because the descriptions provided were insufficient to determine training requirements.

Intervention Components

Given the large number of intervention components we examined, we have placed each component into one of five categories based on the consistency and frequency of mentions of that component across our five levels of rigor: (1) common, (2) emerging, (3) bubbling up, (4) research/practice gap, and (5) rarely mentioned. Notably, efforts to train staff and to ensure that trauma-informed approaches are implemented in a way that respects the unique needs of different groups of students—especially those from historically marginalized and underserved communities such as youth who identify as LGBTQ or who are system-involved—were classified as bubbling up because they were prevalent in best practice guides and other descriptive publications but were absent from many of the most rigorous studies. Below, we describe each category in more detail:

(1) *Common*: frequent mentions across all levels of rigor. Components that were classified as common were generally aligned with aspects of well-established clinical interventions for children and youth including counseling; psychoeducation; skill development; and parent engagement. (2) *Emerging*: consistent mentions across all levels of rigor but with varying frequencies. Emerging components tended to fall into three broad categories: techniques to enhance self-regulation and emotion management; strategies to identify students with unmet behavioral health needs related to trauma; and systematic implementation supports to promote high-quality, sustainable interventions. (3) *Bubbling up*: frequently mentioned in less rigorous publications with some

mentions in rigorous studies. Components that were classified as bubbling up tended to fall into three categories: techniques to enhance the capacity of non-clinical school staff to respond to trauma; strategies to ensure supports are well aligned with community values, especially for communities that have been historically marginalized; and strategies to link students to appropriate trauma-focused services. (4) *Research/practice gap*: frequently mentioned in less rigorous publications with few mentions in rigorous studies. Components classified as a research/practice gap generally included four broader categories: school discipline; acute and long-term strategies to address trauma through fostering physical and emotional safety; staff wellness including efforts to address secondary trauma; and developing individualized plans for specific students. (5) *Rarely mentioned*: components that are rarely mentioned across all levels of rigor. Components that were rarely mentioned consisted of four broad categories: policies to support students and staff (as opposed to programs or practices, which were more common); leveraging supportive relationships among peers or through mentoring; strategies to support students through physical activities; and use of technology.

Outcomes

We examined mentions of the following outcomes to assess the proportion of publications that provided some level of evidence with respect to them. We focused on the following outcomes of interest to schools and mental health professionals: academics, aggression, appropriate referrals, attendance, coping skills, identification of unmet need, knowledge of trauma, knowledge of trauma-related resources, mental health symptoms, supportive parenting behaviors, participation in clinical services, school climate, supportive staff behaviors, and trauma symptoms. We classified experimental and quasi-experimental studies as mentioning an outcome of interest if they reported it in their results section. Other publications, including descriptive publications, were classified as mentioning one of our outcomes of interest if it either provided direct evidence or included citations to published research relative to that outcome. Our findings are not intended to assess the quality of evidence for these outcomes, but rather to describe the frequency with which these outcomes are mentioned across various levels of rigor within the literature that we reviewed.

There was only one outcome that was mentioned in more than half of the publications we reviewed: changes in trauma symptoms. Quasi-experimental and experimental studies were the most likely to mention trauma symptoms, while only one in five descriptive publications mentioned trauma symptoms as an outcome. There were three other outcomes that were mentioned in at least one third of all the publications we reviewed: mental health symptoms, aggressive behaviors, and coping skills. All three of these outcomes were primarily mentioned in experimental and quasi-experimental studies. The most commonly mentioned outcome among descriptive publications was identification of unmet needs which was mentioned in one-quarter of descriptive publications but was not mentioned as an outcome in any of the other publications. Notably, only 13% of the experimental or quasi-experimental studies included academics as an outcome. The least mentioned outcomes included knowledge of the impacts of trauma, appropriate referrals for services, supportive parent behaviors, and knowledge of trauma-related resources, all of which were mentioned as outcomes in fewer than 10% of publications.

Discussion

This review synthesizes 91 different publications describing school-based, trauma-focused interventions from peer-reviewed journals as well as reports and guidance documents from government agencies, research centers, and professional associations. Slightly fewer than half of the publications were classified as descriptive with the other half evenly split across empirical evaluations (i.e., experimental and quasi-experimental studies) and reviews (i.e., systematic reviews and literature reviews). The publications we reviewed described interventions that took a school-wide approach or were implemented in classrooms or health and wellness offices and were implemented by mental health professionals, classroom teachers, and other school staff. Publications mentioned a variety of intervention components, most notably an emphasis on counseling services, skill development, psychoeducation related to trauma, and parent engagement. We identified some alignment across the various levels of rigor as well as several gaps, including a lack of empirical evaluation of whole-school approaches and interventions intended to be delivered by non-clinical staff. We also found that less rigorous publications were more likely to highlight the needs of particularly vulnerable groups of youth and to emphasize cultural competence and community engagement in efforts to address trauma in schools. Below, we discuss some of the gaps and opportunities in more detail.

Common Practices

We identified several areas of alignment across all levels of research rigor. For example, our review highlighted consistent and frequent references to several well-supported strategies including the importance of high-quality mental health treatment (Fitzgerald & Cohen, 2012; Overstreet & Mathews, 2011; Plumb, Bush, & Kersevich, 2016), an

emphasis on skill development (Dariotis, Mendelson, & Blanchard, 2010; Guarino & Chagnon, 2018b; Ijadi-Maghsoodi et al., 2017), psychoeducation to raise awareness of the effects of trauma (Chafouleas et al., 2016; Jaycox, Kataoka, Stein, Langley, & Wong, 2012; National Child Traumatic Stress Network, 2018), and the value of engaging parents and other caregivers to effectively meet the needs of students (Beehler, Birman, & Campbell, 2012; Langley, Santiago, Rodríguez, & Zelaya, 2013; Santiago, Fuller, Lennon, & Kataoka, 2016). We also found frequent mentions of the potential benefits of integrating trauma-informed approaches into existing MTSS (Evers, n.d.; National Association of School Psychologists, 2017; NCTSN 2017b; Reinbergs & Fefer, 2018), suggesting that schools could leverage processes they currently have in place to identify students in need of additional supports to intentionally address the needs of students who have experienced trauma.

We also identified a handful of trauma-focused programs—including Cognitive Behavioral Interventions for Trauma in Schools (CBITS) (Jaycox et al., 2012) and Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) (Fitzgerald & Cohen, 2012)—that are well supported by a set of rigorous evaluations across multiple studies with diverse groups of students. These interventions were frequently mentioned among publications across all levels of rigor, suggesting that these evidence-based programs have achieved some success at scaling up in schools throughout the nation. In fact, we also identified evidence of the scaling out of CBITS (Aarons, Sklar, Mustanski, Benbow, & Brown, 2017). Scaling out is a process by which well-supported, evidence-based interventions are systematically adapted to new populations or settings. In the case of CBITS, promising adaptations for younger students (i.e., Bounce Back) and for delivery by classroom teachers (Support for Students Exposed to Trauma) are currently being evaluated to ensure greater reach of the program (Langley, Gonzalez, Sugar, Solis, & Jaycox, 2015; Schultz et al., 2010). Of note, many of the evaluations of these programs have been conducted with diverse groups of students, a critical aspect of ensuring evidence-based programs work equally well for all students (Allison & Ferreira, 2017; Goodkind, LaNoue, & Milford, 2010; Schultz et al., 2010).

Gaps in the Literature

While there is much to celebrate, our review highlights the uneven attention given to key aspects of trauma-informed approaches in schools across publications of varying levels of rigor. In several instances, we found that descriptive publications were pushing the field forward, challenging schools to be more intentional in supporting their own staff and ensuring that their efforts are culturally aligned with the needs of the communities they serve through an emphasis on meaningful community engagement (Guarino & Chagnon, 2018c; Langley et al., 2013; Love & Cobb, 2012; NCTSN 2017a; Pickens & Tschopp, 2017). In contrast, few rigorous publications mentioned these topics. Descriptive publications were also much more likely than empirical publications to highlight the unique needs of particularly vulnerable groups of youth. For example, several less rigorous publications highlighted the needs of youth in the foster care system, experiencing homelessness, or who identify as LGBTQ, while none of the empirical publications referenced these groups. Given inequities with respect to exposure to trauma and access to high-quality mental health services—many of which are related to well-documented systemic oppression—it is critical that the research community help schools establish evidence of effective practices and policies in addition to programs so that schools can effectively allocate their resources (López et al., 2017; Marrast, Himmelstein, & Woolhandler, 2016). In addition, in focus groups conducted with school staff after a workshop, Blitz, Anderson, and Saastamoinen (2016) noted that participants rarely mentioned race when discussing trauma experienced by students. Those who did talk about race tended to discount it as contributing to trauma experiences with some white focus group participants noting that they found workshop discussions during a school district training on cultural responsiveness to be offensive. While these findings come from a small study conducted in one elementary school, the themes suggest that schools and school districts would benefit from more evidence-based guidance on how to address the intersection of racism and trauma in schools.

Our review also highlights the imbalance among the empirical publications with respect to the public health approach, a sharp contrast to the literature reviews and descriptive publications we reviewed. For example, while rigorous publications often referenced MTSS, they focused almost exclusively on Tier 2 or Tier 3 interventions, generally only addressing the role of Tier 1 (universal) interventions with respect to strategies for screening students to make appropriate referrals for more intensive treatment. Literature reviews and descriptive publications, on the other hand, often referenced all levels of support (Chafouleas et al., 2016; Evers, n.d.; National Child Traumatic Stress Network, 2017b; Reinbergs & Fefer, 2018). Given that the public health model is reliant on a strong set of universal interventions to reduce the need for more intensive interventions and—especially in the case of schools—to ensure that the benefits of high-quality Tier 2 and Tier 3 interventions are not inadvertently undone by sending students into settings that are ill equipped to provide appropriate supports, it is critical that the research community pay more attention to establishing evidence for effective interventions across all tiers of support. That requires extending the body of

research to include more rigorous evaluations of whole-school approaches and interventions that are intended to be delivered by a range of school staff, including investigations of how to best train non-clinical school staff to implement trauma-informed interventions. In fact, a recent study of an effort to infuse trauma-informed practices within an MTSS approach in a large urban school district highlights several implementation challenges that deserve more rigorous investigation (von der Embse, Rutherford, Mankin, & Jenkins, 2018). It also means expanding the outcomes that are measured to include metrics commonly used by schools including academic performance and attendance as well as referrals to and use of health and mental health services.

While many of the gaps we identified could be classified as examples where the research community needs to catch up with the practice community, there were also a few examples of potential opportunities being missed across all categories of publications in our review. In particular, few publications addressed the role of policies in supporting the types of programs and practices that make a difference for students and staff. This is particularly important given the recent increase in legislative attention to trauma in schools (Chriqui et al., 2019). Another policy lever that was rarely mentioned in descriptive publications and completely absent in empirical publications we reviewed is the role of school wellness policies. As with MTSS, more attention should be paid to ensuring that existing policies are effectively leveraged to support students and staff.

Recommendations for Future Research and Practice

The findings of this scoping review point to a need to better align research and practice. To date, empirical research related to school-based interventions to address trauma have focused almost exclusively on evaluating and scaling up programs, many of which are intended to be implemented by mental health professionals. While it is useful to identify evidence-based programs that can be effectively implemented in schools, it is also critical to examine what works when it comes to practices and policies that can have wide-reaching effects across an entire school and, in some cases, a school system. In particular, future research should pay more attention to universal supports that can be implemented in schools serving diverse communities with often limited mental health resources. Further, researchers must follow the lead of education professionals and begin to conduct research in a way that allows for comparisons across multiple groups of students to ensure that the benefits of effective interventions accrue to all students. An important step in that process is making sure that marginalized communities have a seat at the table when interventions are being developed and that research studies are being designed to evaluate those interventions.

As we noted in Discussion, more attention should be paid to identifying and disseminating the most effective strategies for identifying students with unmet needs as a result of experiencing trauma, especially when that trauma is ongoing. Several of the publications we reviewed advised caution when considering a large-scale or universal screening to identify students who may be experiencing trauma. With increasing pressures from legislators, as well as mounting evidence that unaddressed trauma can have negative consequences for classroom engagement and learning, schools are looking for answers and the research community should ensure that the limitations of current screening options are widely shared while also partnering with schools and communities to identify valid, reliable, and cost-effective strategies for identifying students in need.

More attention should also be paid to the role that codes of conduct can play in addressing trauma. Codes of conduct were mentioned in several descriptive publications but were entirely absent from the empirical publications we reviewed. It is critical that schools have access to high-quality evidence with respect to ensuring that codes of conduct are enforced in a way that supports physical and emotional safety for all students and avoids retraumatization of students who are currently experiencing trauma. This gap in the literature is particularly concerning given the potential for punitive and exclusionary discipline to exacerbate trauma symptoms among students experiencing trauma. Well-documented inequities in discipline for "acts of defiance" combined with unequal use of exclusionary discipline suggest that schools would benefit from research-based guidance that takes into account the role of codes of conduct in addressing trauma effectively (Okonofua, Walton, & Eberhardt, 2016; Skiba, Michael, Nardo, & Peterson, 2002).

We also found it striking that only one of the publications in our review explicitly mentioned the use of technology. There are a number of ways in which technology could be brought to bear upon the problem of how to address trauma in schools. Virtual reality simulations such as one that was recently released by *Kognito* (2018) hold promise because they can allow teachers to practice critical skills in a safe and realistic environment. Technology could be developed to help researchers better capture the true effects of professional development for teachers related to addressing trauma. There are many school districts around the country that are spending professional development resources on training teachers about trauma with little evidence to demonstrate whether those trainings actually translate into changed behaviors in the classroom and improved outcomes for students. Technology also holds promise to help schools and communities better assess the level of unmet need. Big data and smart phone applications offer opportunities to collect

large amounts of data that can be used to help identify which schools or neighborhoods might be experiencing the most unmet need, allowing policymakers to target resources to the schools that most need them, but also to help them be more intentional about coordinating efforts across various government and nonprofit service providers. There are, of course, serious privacy and ethics concerns when it comes to harnessing these sources of data that must be addressed (Vayena, Blasimme, & Cohen, 2018).

Schools, government agencies, and nonprofit service providers should also begin to identify ways to leverage existing data and partnerships to better understand the needs in their community and to more efficiently monitor the effects of their efforts. Given the nascent stage of the field of school-based interventions to address trauma, schools cannot wait for a list of evidence-based interventions that have been proven effective in a population just like theirs. Rather, they must build upon what already exists in intentional ways, leveraging data that they already collect to monitor progress and make course corrections when necessary. This is challenging work that requires trust and collaboration. Researchers must continue to play a role in this process as well. The development of the CBITS program is an example of a university–community partnership that has resulted in an intervention that has ultimately been adapted to meet the needs of many communities beyond the original participating schools.

Limitations

Our review had many strengths, including a more expansive search strategy compared to previously published reviews that included both peer-reviewed and gray literature publications. However, there are also important limitations to note. First, we were necessarily limited by our search criteria. Although we endeavored to include search terms that reflected core concepts in the field, if authors did not use the terms we identified to describe a school-based trauma intervention, their papers would not have been identified. Also, we excluded dissertations and books. For this reason, though many of the publications we identified have also been identified in previously published review articles, it is possible that we missed some potentially relevant publications. Similarly, due to the fact that gray literature is not systematically organized and indexed as are scholarly bibliographic databases, our Web search was necessarily restricted. In order to maximize the comprehensiveness of this search, we identified a number of government agencies, national professional associations that work in education and mental health, and a few well-established academic research centers through a process that included review and comment from several experts, including researchers involved with the National Child Traumatic Stress Network. Additionally, while our search was thus restricted, several publications were cross-published across multiple Web sites, suggesting that we have identified many publications that are likely to be familiar to school and mental health stakeholder groups. Another limitation is the nature of the review; due to the fact that we identified 91 relevant publications, we had to find ways to restrict our analyses. It may be that selecting different constructs would have resulted in a different summary of the literature. However, we believe that the constructs we identified present a useful and cohesive review that is well aligned to the needs of researchers, policymakers, and educators. In the end, because we maintained a large number of constructs, we had to rely on a team of reviewers to complete the review in an efficient and timely manner. Having multiple reviewers can introduce the potential for inconsistencies across coders, and it is possible that a different team of researchers could code the data in slightly different ways. However, we believe that our double-coding of a portion of the resources combined with regular check-ins and final decisions being made by the first author allowed us to benefit from the perspectives of researchers from various sectors including education, mental health, and public health as well as library science resulting in a rigorous and practical review of the data.

Conclusion

Schools are increasingly undertaking efforts to better meet the needs of students who are experiencing trauma. There is a large and growing body of evidence with respect to the effects of trauma. There is also a growing list of clinical interventions with proven effects on reducing trauma, including a handful of well-supported school-based interventions. More and more of this research is also exploring the effectiveness of these interventions for diverse groups of youth. Despite these important advances, schools continue to face significant challenges when it comes to identifying and implementing effective programs, policies, and practices across all levels of the public health model. Researchers must pay more attention to practices and policies that support students and staff, including identification of professional development strategies that can help school staff acquire knowledge and skills that can translate into improved outcomes for students. High-quality research must also be made accessible to policymakers and school staff to ensure that clear, evidence-based guidance is available to avoid programs, practices, and policies that may inadvertently traumatize students or exacerbate symptoms among students who have already experienced trauma.

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Compliance with Ethical Standards

Conflict of interest All authors of this manuscript have confirmed that they have no actual or perceived conflicts of interest to report.

Research Involving Human Participants and/or Animals This manuscript describes the results of a scoping review of existing publications. We did not conduct research involving human participants or animals.

Informed Consent This manuscript describes the results of a scoping review of existing publications. We did not conduct human subjects research and did not require informed consent.

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An asterisk denotes a publication that was included in the review

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