Research Article

Journal of Trauma Studies in Education
Volume 5, Issue 1 (2026), pp. 104-126
ISSN: 2832-1723 (Print), 2832-1731 (Online)
http://doi.org/10.70085/jtse.v5i1.155

Pre-service Training in Trauma-Informed Care for Educators: Exploring Changes in Knowledge, Attitudes, and Preparedness

Saadia Elahi
Northwestern University

Anna W. Sroka
Northwestern University

Margaret Meldrum
University of Virginia

Karen R. Gouze
Northwestern University

Colleen Cicchetti
Center for Childhood Resilience

Caryn Curry
Center for Childhood Resilience

Tali Raviv
Northwestern University

ABSTRACT

As trauma exposure is highly prevalent among children and adolescents, educators are in a key position to deliver trauma-informed care (TIC) in school settings. However, few undergraduate teacher education programs provide sufficient education to emerging educators in trauma and its impact on child development and in TIC. As a result, many pre-service educators feel unprepared to meet the needs of students with trauma-related emotional and behavioral challenges. The current study aims to explore a cohort of pre-service educators' previous experiences with training in trauma and TIC, as well as to examine the impact of a basic training curriculum on their knowledge and attitudes related to trauma and TIC. Findings of the study show that most pre-service educators received little to no previous training in trauma and TIC. However, participating in a basic trauma training curriculum shows promise in building foundational knowledge and positive attitudes towards integrating TIC in the classroom

Keywords: Trauma, Trauma-Informed Care, Pre-Service Educators, Teacher Preparation

Exposure to traumatic events is common among youth (i.e., children and adolescents) and is increasingly recognized as a public health concern (Magruder et al., 2017; National Child Traumatic Stress Network [NCTSN], 2017). Schools present an opportune setting for the provision of trauma-informed care (TIC) to ameliorate the negative effects of trauma exposure (Chafouleas et al., 2016; Jaycox et al., 2014; Substance Abuse and Mental Health Services Administration [SAMHSA], 2014). Effective TIC requires educators to be equipped with the knowledge and skills to recognize signs and symptoms of trauma exposure and to respond in ways that support resilience among affected students (Santiago et al., 2018). Yet, many in-service teachers, or those already in the education workforce, report that they do not receive adequate training to implement school-based TIC (Alisic, 2012; Baweja et al., 2016; Goldenthal, et al., 2023; Hobbs et al., 2019; Koller et al., 2004; Phifer & Hull, 2016; Reinke et al., 2011; Thomas et al., 2019). From this evidence we may infer that pre-service teachers, or those training to become educators but not yet in the education workforce, do not receive enough preparation in TIC, as others have suggested (Brown et al., 2022; Hobbs et al., 2019; Reddig & VanLone, 2022; Reinke et al., 2011). However, there is limited empirical work examining TIC training in pre-service settings (Brown et al., 2022). Understanding the needs of pre-service educators is critical, as new educators may be particularly challenged to adequately support students with high needs. In this article, we report on findings from a study that explored the following: (1) the degree to which pre-service educators have received training about TIC during their undergraduate education; (2) changes in their perceptions of their readiness to support youth exposed to trauma before and after a formal training on TIC; and (3) the impact of such training on educators' knowledge and attitudes related to TIC.

The Impact of Childhood Trauma and Trauma-Informed Care

A traumatic event is an event experienced as seriously harmful or life-threatening to an individual or their loved ones (SAMHSA, 2014). Chronic or repeated trauma exposure can impair young youth's ability to form attachment bonds with their caregivers and their sense of safety (National Scientific Council on the Developing Child, 2015), and can lead to subsequent neurobiological, psychological, and physiological disruptions (Dye, 2018; Lieberman et al., 2011). Such disruptions may include impairment of a normative stress response (Nemeroff, 2004), altered brain architecture and development (Perry, 2006; Stark et al., 2015), a range of physical (e.g., obesity, chronic disease; Dong et al., 2004; Ford, 2005; Oh et al., 2018) and mental health (e.g., anxiety, depression, post-traumatic stress disorder) symptoms, and delays in behavioral, emotional, and cognitive developmental processes (Enoch, 2011).

Although it is challenging to determine the exact prevalence of trauma exposure among youth, estimates have remained relatively stable and high since the landmark Adverse Childhood Experiences (ACE) study that first explored this question (Copeland et al., 2007; Felitti et al., 1998; Finkelhor et al., 2015; McLaughlin et al., 2013). Currently, the Substance Abuse and Mental Health Services Administration (2024) estimates that at least two-thirds of youth experience a potentially traumatic

event by the time they reach age sixteen. In a school-based setting, it is likely that at least one student in every classroom has been exposed to one or more potentially traumatic events (NCTSN, 2017), with students attending low-income schools and students of color experiencing disproportionately higher rates (Brunzell et al., 2016; Saleem et al., 2020). The effects of trauma exposure hold significant implications for youth's healthy development and well-being, with consequences that can persist into adulthood (Edwards et al., 2003; Oh et al., 2018). Importantly, trauma exposure can negatively impact school-related outcomes and success for youth (Borofsky et al., 2013; Stempel et al., 2017). This can be due to their cognitive, social, emotional, academic, and behavioral functioning (Anda et al., 2006; McLaughlin et al., 2020; Mendelson et al., 2015; Perfect et al., 2016), ability to engage in typical learning behaviors (DuPaul et al., 2014), and ability to develop relationships being disrupted following such exposure (Dye, 2018). With around 50 million American youth enrolled in public schools, there is a clear opportunity for school-based prevention and intervention to address the consequences of trauma exposure among youth (Chafouleas et al., 2016; Irwin et al., 2024; Thomas et al., 2019) and increase equitable access to mental health support.

The implementation of TIC in schools and youth-serving community settings holds promise for buffering the negative sequelae of exposure to trauma (Downey & Greco, 2023; Fondren et al., 2020). TIC provides a framework that recognizes the signs and effects of trauma and encourages the use of sensitive practices to support those experiencing related symptoms (SAMHSA, 2014). The Substance Abuse and Mental Health Services Administration (2014) identifies four practices that foster a trauma-informed setting. These four practices, known as the "4 Rs," include 1) *Realizing* the potential impact of trauma, 2) *Recognizing* signs, symptoms or manifestations of trauma, 3) effectively *Responding* to manifestations of trauma with awareness and sensitivity, and 4) *Resisting retraumatizing* individuals where possible (SAMHSA, 2014). Ideally, in educational settings, TIC is integrated throughout teaching practices and school systems to create a trauma-informed environment that is responsive to the behavioral and emotional manifestations of trauma among youth (e.g., withdrawal or disruptive behavior in the classroom; Margolius et al., 2020).

The implementation of TIC in educational settings ensures opportunities for healing from the impact of trauma through its core components that center around creating a safe environment, helping students regulate and express emotions in healthy ways, and establishing healthy relationships (Bath, 2008). The literature on TIC has identified commonly used and recommended practices for school settings, including building knowledge and awareness of trauma among all adults working with students, adopting a "trauma lens" (understanding the impact of trauma on student well-being and functioning), fostering a positive school climate, modeling and teaching self-awareness, coping, and social skills, and supporting provider self-care (Kataoka et al., 2018; Thomas et al., 2019). These practices create a culture that emphasizes understanding, compassion, and safety as educators use a new perspective that is sensitive to students' personal experiences and challenges. Emphasizing the centrality of educator self-care and wellness practices reduces the risk of secondary traumatic stress and burnout (Thomas et al., 2019), reinforces a TIC culture, and models self-regulation and coping skills for students.

The Role of Educators in Supporting Students Exposed to Trauma

Youth spend the majority of their time outside of the home at school; therefore, educators are often the first adults outside of a youth's family to observe and respond to the effects of traumatic experiences (Atkins & Rodger, 2016). Given the negative impact of traumatic exposure on youth's emotional, behavioral, and academic functioning, educators may play an important role in recognizing early signs of declining mental health among school-aged youth and are optimally situated to connect students to appropriate services and supports (Johnson et al., 2011). However, little is known about early career educators' pre-service preparation regarding trauma and TIC, or how teacher education programs can potentially supplement knowledge gaps with additional resources and training opportunities. Despite the prevalence of youth trauma and the commonality of classroom manifestations of trauma, such as withdrawal, disruptive behavior, and poor academic performance, educators often feel underprepared to identify and appropriately respond to trauma in the classroom (Honsinger & Brown, 2019; Miller & Flint-Stipp, 2019). This lack of confidence in the existing educator workforce indicates a need and an opportunity to better integrate these concepts into education and preparation programs.

Previous research demonstrates that supplemental training resources focused on trauma education can help to address knowledge gaps for in-service school staff and improve outcomes for students. For example, the Healthy Environments and Response to Trauma in Schools (HEARTS) program, developed at the University of California, San Francisco, utilizes a multi-tiered approach to promote successful outcomes for students impacted by trauma (Dorado et al., 2016). Results of this study indicated that school personnel's knowledge of trauma and trauma-informed practices significantly increased after participation in the HEARTS program. Further evidence for the effectiveness of supplemental training in trauma for educators comes from The New Orleans Trauma-Informed Schools Learning Collaborative. These researchers evaluated the impact of a 2-day foundational professional development course on educators' knowledge and perceived acceptability of trauma-informed practices (McIntyre et al., 2018). Participating educators demonstrated significant knowledge gains following the training; furthermore, knowledge gains among participants who perceived high fit of trauma-informed practices within their school system were associated with greater acceptability of trauma-informed approaches to education (McIntyre et al., 2018). The results of these studies and others (e.g., Anderson et al., 2022) support the effectiveness of professional development opportunities in improving in-service educators' knowledge and attitudes towards trauma-informed approaches and provide initial indications that similar results may be accomplished by targeting these opportunities towards pre-service educators.

Research exploring differences in TIC training outcomes based on educators' sociodemographic backgrounds is scarce. Cultural differences in perceptions of help-seeking behavior and mental health (e.g., Chaudhry & Chen, 2019; Cheon & Chiao, 2012; Zolezzi et al., 2018), disproportionate exposure to trauma among educators from historically marginalized populations, and differing responses to students' trauma due to systemic inequities associated with educator race/ethnicity and

socioeconomic class (Castro Schepers, 2023) may influence training acceptability and effectiveness. Among educators from cultures in which mental health symptoms and help-seeking behaviors are stigmatized, training in TIC may be viewed more negatively and consequently have less of an impact on educator practice. Moreover, dominant stereotypes (e.g., race, gender) may influence how educators perceive training; for example, past research suggests that female educators are more accepting of trauma-informed approaches relative to their male counterparts (McIntyre et al., 2018). Educators who have been exposed to trauma themselves may demonstrate greater acceptance of TIC training given their personal experiences, but may also require greater structural support to uphold their well-being and prevent exacerbation of secondary traumatic stress. Exploring these differences is important for tailoring TIC training to meet educators' needs and to leverage their strengths.

The Importance of Training in Trauma and TIC for Pre-Service Educators

Educators may draw fulfillment and increased feelings of competence through caring for students; however, inadequate preparation in how to identify and address signs of trauma can have adverse effects on educators' well-being and sense of efficacy (Miller & Flint-Stipp, 2019). If educators do not develop adequate knowledge about trauma and its manifestations, they might misinterpret students' classroom behaviors (e.g., intentional defiance, ADHD-like symptoms) and unknowingly contribute to negative student outcomes (Hobbs et al., 2019). Additionally, insufficient preparation puts educators at increased risk of exposure to secondary traumatic stress, which can be associated with negative physical, mental, and emotional outcomes (Miller & Flint-Stipp, 2019).

Prior literature suggests that educators who receive insufficient pre-service training in trauma report lower confidence in supporting the mental health and emotional needs of students impacted by trauma (Oberg et al., 2023). Pre-service educators can begin to carry the burden of addressing the needs of students exposed to trauma while they are still in training, while juggling other academic responsibilities. Consequently, burnout, or chronic work stress, resulting from insufficient preparation and education in trauma and TIC may begin before educators even begin their careers (Garcia-Carmona et al., 2018; Miller & Flint-Stipp, 2019). Burnout is highly prevalent among educators and represents one of the largest drivers of educator attrition, a problem that is growing nationally (Garcia-Carmona et al., 2018; Zhang & Zeller, 2016). Educators with higher levels of burnout are more likely to report intentions to leave the education field because of stress (Christian-Brandt et al., 2020).

The likelihood of educator retention is also related to the preparation that educators receive in their pre-service education (Zhang & Zeller, 2016). Prior literature suggests that pre-service training focused on mental health literacy development can increase educators' mental health knowledge, reduce stigma, and increase help-seeking intentions (Wei et al., 2020). Additionally, pre-service training in classroom manifestations of trauma, such as disruptive student behavior—a significant contributor to educator attrition—may help to promote educator retention by increasing educators' confidence in their ability to meet the needs of their students

(Harris et al., 2019). Pre-service education in trauma and trauma-informed practices may provide an avenue to improve educators' feelings of preparedness to address manifestations of trauma exposure encountered in the classroom, reduce burnout, and increase educator retention.

THE CURRENT STUDY

Prior research on training opportunities in trauma and TIC for educators has focused primarily on the current educator workforce; evidence is lacking about the effectiveness of training opportunities in trauma and TIC for pre-service educators. Results of previous studies with in-service educators suggest potential avenues for addressing the needs of pre-service educators regarding preparation in TIC.

The current study explored experiences of pre-service educators related to their training in trauma and TIC. We hypothesized that (1) educators receive insufficient preparation and training regarding trauma and trauma-informed practices during their undergraduate education and (2) participation in a basic training curriculum would result in improved attitudes toward and increased knowledge of trauma and TIC among emerging educators. We also conducted exploratory analyses to investigate the impact of demographic factors on outcomes of this training given the paucity of research in this area.

METHODS

The current study is part of a larger, long-standing collaboration between an academic partner at a pediatric teaching hospital and a non-profit foundation that supports educator recruitment, preparation, and retention in the Midwestern United States. The teacher preparation program enrolls high school seniors and first- and second-year college students with aspirations to become educators in under-resourced schools. Recruitment efforts target students who are first-generation college students, students of color, and students who belong to other historically marginalized groups. The program provides students with tuition assistance, opportunities for classroom teaching experience, academic and social-emotional support, assistance with job placement, enrichment training through intensive summer institutes, and mentorship during their first two years of teaching. Through provision of these supports, the program aims to expand the pipeline of effective educators, increase diversity in the educator workforce, reduce turnover, and combat the national teaching shortage (Sutcher et al., 2016).

The foundation requested that the academic partner design and deliver training in trauma and TIC via intensive two-day sessions during the summer immediately prior to program participants' first year of teaching. Masters and doctoral-level clinicians (social workers and clinical psychologists) affiliated with the teaching hospital delivered the training, which was developed by the academic partner with input from collaborators within the foundation.

Participants

Participants for the current study included 174 pre-service educators enrolled in the teacher preparation program who completed questionnaires both before and after

participation in a two-day training consisting of a series of summer workshops on trauma and TIC. Sociodemographic information was gathered for all participants (see Table 1). The sample was predominantly female (78.2%), White (63.8%) and non-Hispanic/Latinx (71.3%). Notably, demographic characteristics of our sample reflect the demographic characteristics of public school teachers in the United States (Schaeffer, 2024).

Table 1: Demographic Characteristics of Survey Respondents

	n	*%*
Gender		
Female	136	78.2
Male	29	16.7
Other	1	0.6
No Response	8	4.6
Ethnicity		
Hispanic/Latinx	50	28.7
Non-Hispanic/non-Latinx	124	71.3
Race		
American Indian/Alaskan Native	2	1.1
Asian/Pacific Islander	8	4.6
Black or African American	13	7.5
White	111	63.8
Multiracial	19	10.9
Other	19	10.9
No Response	2	1.1
First-Generation College Student		
Yes	39	22.4
No	130	74.7
Unknown	5	2.9

Training and Implementation

Training was provided to two cohorts over two consecutive years, through summer institutes that were an existing component of the teacher preparation program. Participants in both cohorts received eight hours of training over the course of two days. The training content was divided into five modules, each emphasizing a core component of TIC: Creating a Safe Environment, Building Relationships and Connectedness, Supporting and Teaching Emotion Regulation, Cultural Responsiveness and Equity, and Educator Self-Care. Collectively, the training modules were designed to support pre-service educators to (1) develop a "trauma lens," or understanding of how trauma can impact students' well-being and

functioning; (2) identify common symptoms of trauma exposure; (3) learn culturally attuned trauma-responsive strategies to create safe classroom environments, promote supportive relationships and connectedness, and encourage healthy emotion regulation and expression; (4) understand how secondary traumatic stress can impact their own well-being; and (5) recognize the importance of engaging in self-care to ameliorate the impacts of secondary traumatic stress. Each session included a didactic component, as well as opportunities for small-group discussion, role play or practice activities, and reflection.

Data Collection

This study was approved by the Institutional Review Boards at the pediatric teaching hospital and the university with which the academic partner is affiliated. Data were collected via online surveys using Qualtrics Survey Software from participating pre-service educators. Each cohort of participants completed one pre-intervention survey immediately prior to the two-day training and one post-intervention survey immediately after the training. Informed consent was obtained from participants prior to survey administration.

Measures

Previous Training on Trauma

Participants reported on trauma training they received during their undergraduate program via four study-developed questions on the pre-intervention survey. Two questions measured the amount of training on trauma students received, and the other two questions measured students' feelings of preparedness based on their training and their satisfaction with the training. These items were rated on five-point Likert scales (Table 2).

Table 2: Study Variables and Measures

Variable	Measure	Example Item	Response Options	α
Previous Training on Trauma	Survey designed by study team	*"During your undergraduate teacher training, how much training on the impact of childhood trauma on development and learning did you receive?"*	1="*None at All";* 2=*"A Little";* 3=*"A Moderate Amount";* 4=*"A Lot";* 5="*A Great Deal"*	-
Perceptions of Knowledge	Survey designed	*"My knowledge about trauma-sensitive*	1="*Poor";* 2=*"Fair";* 3=*"Good";*	0.94

about Trauma and TIC	by study team	*practices I can use to support children is:"*	4=*"Very Good";* 5="*Excellent"*	
Factual Knowledge about Trauma and TIC	Survey designed by study team	*"Which of the following is a false statement about how trauma affects the brain?"*	A: *"Trauma can cause distortions in interpreting social information like facial expressions"*; B: *"Trauma causes the fight and flight reaction to be triggered easier and last longer"*; C: *"Trauma exposure will cause irreversible brain damage"*; D: *"Trauma can impact brain growth/size as well as connectivity/density"*	-
Attitudes Toward Trauma-Informed Care	ARTIC (Baker et al., 2016)	*"I believe that..."*	1=*" Students need to experience real life consequences in order to function in the real world"* to 7=*" Students need to experience healing relationships in order to function in the real world"*	0.94

Note. Internal consistency reliability was not calculated for the *Previous Training on Trauma* variable because the four items in this were examined individually. Additionally, internal consistency reliability was not calculated for the *Factual Knowledge About Trauma and TIC* variable because this measure was intended to assess participants' knowledge about a variety of topics related to trauma and TIC

Perceptions of Knowledge About Trauma and TIC

Students' perceptions of their knowledge about trauma were assessed using four study-developed questions (Table 2). Participants were asked to rate their knowledge about trauma's effects on youth's development and behavior, trauma-sensitive

practices that can be used to support youth, adverse childhood events (ACEs), and compassion fatigue and self-care strategies. Participants self-rated their own knowledge about trauma on a five-point Likert scale. The four items were averaged to create a composite score. Self-perception of knowledge about trauma was assessed before and following the intervention. The internal consistency of this composite score was excellent (Table 2).

Factual Knowledge about Trauma and TIC

Students' factual knowledge about trauma and TIC was assessed with eight multiple choice questions developed for the study based on information covered during the training (Table 2). Four items were excluded from the present analyses because wording was changed across cohorts to minimize ceiling effects. Percentages of items answered correctly were calculated for each participant; higher percentage scores indicate greater knowledge. Knowledge of facts about trauma and TIC was assessed before and following the intervention.

Attitudes Towards Trauma-Informed Care

The Attitudes Related to Trauma Informed Care (ARTIC; Baker et al., 2016) scale is a self-report questionnaire assessing attitudes towards trauma and TIC. It is a commonly used scale for staff in human service and educational settings and has demonstrated good reliability and validity in previous work (Baker et al., 2016). The scale includes five subscales, including Underlying Causes of Problem Behavior and Symptoms (i.e., perceiving behaviors and symptoms as adaptable), Responses to Problem Behavior and Symptoms (i.e., promoting relationships, flexibility, kindness, and safety as drivers of change), On-The-Job Behavior (i.e., promoting empathy-based action from staff), Self-Efficacy at Work (i.e., ability to fulfill the responsibilities required in working with students exposed to trauma), and Reactions to the Work (i.e., promoting seeking support and utilizing coping tools to address effects of secondary trauma). The ARTIC uses a 7-point bipolar Likert scale anchored by favorable or unfavorable statements about TIC. Participants report the strength of their beliefs across this continuum. For example, the statement "Students could act better if they really wanted to" reflects a strong, negative attitude (score of 1). On the other end of the scale, the statement "Students are doing the best they can with the skills they have," reflects a strong, positive attitude (score of 7). A score of 4 would suggest a neutral stance between the two statements. Participants answered 35 questions, with greater average scores indicating more positive attitudes towards TIC. The internal consistency for this 35-item scale was excellent (Table 2).

Analytic Strategy

The sample's sociodemographic characteristics and previous training on trauma were described using percentage values. Data from both cohorts were used to describe the sample. To describe previous training in trauma and TIC, percentages were calculated. To examine differences in perceptual knowledge of trauma, measured

knowledge of trauma, and attitudes towards TIC pre- and post-intervention, dependent t-test analyses were conducted in RStudio (RStudio Team, 2020). Finally, two-way repeated measures ANOVA analyses were conducted in RStudio to examine interactions between demographic variables and time points on outcome variables of interest. Post-hoc t-tests were conducted to assess pairwise differences associated with significant interaction effects.

RESULTS

Previous Training in Trauma and TIC

When asked how much training they had received on the impact of childhood trauma on development and learning, only 3.4% of participants reported that they had received *a great deal* of training or *a lot* of training. In contrast, over 20% of the sample reported receiving *no training at all* (see Table 3). On average, participants reported that they had received *no training at all* on the impact of childhood trauma on development and learning (*M*= 1.94, *SD*= 0.82). Results were similar with regard to the amount of training received on supporting students experiencing child traumatic stress, with only 3.4% of participants reporting that they had received *a great deal* of training or *a lot* of training and over a quarter of participants reporting receiving *no training at all* (see Table 3). On average, participants reported that they had received *no training at all* in supporting students experiencing child traumatic stress during their undergraduate teacher training (*M*= 1.82*, SD*= 0.78).

On average, participants reported feeling that their undergraduate training made them *not at all prepared* to support students with child traumatic stress (*M*= 1.77, *SD*= 0.82). Only 3.5% of participants reported feeling *extremely adequately* prepared or *very adequately* prepared, while 32.2% reported feeling *not at all prepared* to support these students (Table 3).

On average, participants reported feeling *extremely dissatisfied* with the undergraduate training they received on supporting students with child traumatic stress (*M*= 1.88, *SD*= 0.97). Only 10.9% of participants reported feeling *extremely satisfied* or *somewhat satisfied*, whereas 29.3% of participants reported feeling *extremely dissatisfied* with their undergraduate training in this area (Table 3).

Table 3: Respondents' baseline reports of previous training and preparation in trauma and TIC

	M	*SD*	*n (%)*
Previous training on the impact of childhood trauma on development and learning	1.94	0.82	
A great deal			3 (1.7)
A lot			3 (1.7)
A moderate amount			40 (23.0)
A little			90 (51.7)
No training at all			38 (21.8)

Undergraduate training in supporting students experiencing child traumatic stress	1.82	0.78	
A great deal			2 (1.1)
A lot			4 (2.3)
A moderate amount			26 (14.9)
A little			97 (55.7)
No training at all			45 (25.9)
Undergraduate preparedness to support students with child traumatic stress	1.77	0.82	
Extremely adequately			1 (0.6)
Very adequately			5 (2.9)
Somewhat adequately			33 (19.0)
A little adequately			79 (45.4)
Not at all adequately			56 (32.2)
Satisfaction with undergraduate training in supporting students with child traumatic stress	1.88	0.97	
Extremely satisfied			2 (1.1)
Somewhat satisfied			17 (9.8)
Neither satisfied nor dissatisfied			26 (14.9)
Somewhat dissatisfied			78 (44.8)
Extremely dissatisfied			51 (29.3)

Note. Range = 1 (lowest) to 5 (highest). For example, 1 = *No training at all* and 5 = *A great deal*.

Perceptions of Knowledge About Trauma and TIC

To compare participants' perceptions of their knowledge about trauma and TIC before and after participation in the training, a Wilcoxon signed rank test was conducted because the data violated the assumptions of the dependent t-test. Results indicate that participants perceived that they had greater knowledge about trauma and TIC after participation in the training (M= 3.99, SD= 0.54) than before participation in the training (M= 1.96, SD= 0.66, V= 7, p< 0.001). These results suggest that participants' perceptions of their knowledge about trauma and TIC significantly increased as a result of participation in the training. No significant interactions emerged between demographic variables and time on perceptions of knowledge about trauma and TIC.

Factual Knowledge about Trauma and TIC

To compare participants' knowledge of facts about trauma and TIC before and after participation in the training, a dependent t-test was conducted. Results indicate that participants' scores were significantly greater after participation in the training (M= 0.79, SD= 0.21) than before participation in the training (M= 0.48, SD= 0.22,

t(172)= -16.351, $p< 0.001$). These results suggest that participants' average scores on the knowledge quiz increased from 48% to nearly 80% as a result of participation in the training. No significant interactions emerged between demographic variables and time on factual knowledge about trauma and TIC.

Attitudes Towards Trauma-Informed Care

To compare participants' attitudes towards TIC before and after participation in the training, Wilcoxon signed rank tests were conducted for each subscale of the ARTIC-35 because the data violated the assumptions of the dependent t-test. Results indicate that participants' attitudes towards TIC increased in all domains after participation in the training (see Table 4). Additionally, two-way repeated measures ANOVA revealed a significant interaction effect between time and ethnicity on the ARTIC domain of attitudes regarding reactions to the work, $p= 0.012$. Therefore, pre-post differences in attitudes regarding reactions to the work were analyzed for each ethnic group. Two-sample t-tests revealed significantly more favorable attitudes regarding reactions to the work after the training ($M= 5.03$, $SD= 1.32$) than before the training ($M= 4.72$, $SD= 1.05$) among non-Hispanic/Latinx participants ($p= 0.047$), but not among Hispanic/Latinx participants ($M_1= 4.71$, $SD_1= 0.99$; $M_2= 4.73$, $SD_2= 1.29$; $p= 0.96$).

Table 4: Wilcoxon Signed Rank Test Results Comparing Pre-Post Change in ARTIC Subscale Scores

Domain	*Pre-M (SD)*	*Pre-M (SD)*	*V*	*p*
Underlying Causes of Problem Behavior and Symptoms	5.08(0.69)	5.35(0.86)	2333.0	<0.001**
Responses to Problem Behavior and Symptoms	4.47(1.40)	4.58(1.67)	4201.0	0.01*
On-the-Job Behavior	4.60(1.19)	4.87(1.32)	2489.0	<0.001**
Self-Efficacy at Work	4.64(1.07)	4.81(1.34)	3838.0	0.01*
Reactions to the Work	4.71(1.01)	4.94(1.32)	3283.0	<0.001**
Overall ARTIC	4.70(0.95)	4.91(1.23)	3395.5	<0.001**

Note. p<.05*, p<.001**

DISCUSSION

The current study examined pre-service educators' experiences before and after participation in a training on TIC. Participants were asked to report on their previous

training in TIC, perceptions of their knowledge and preparedness, factual knowledge about the impact of trauma on development and learning, and attitudes towards TIC. Across baseline reports, as we hypothesized, findings show that a majority of pre-service educators receive little to no training in these topics, including how trauma may impact child development and learning, or how to effectively support youth exposed to trauma. In fact, few participants reported feeling prepared by their undergraduate education to support students struggling with traumatic stress. Not only do these findings suggest a major lack of preparation in TIC across new generations of educators, but they also suggest that new educators may not be equipped to effectively meet the social and emotional needs of students exposed to trauma. Given the high rates of trauma exposure among school-aged youth, it is critical to address this gap early to better develop early career educators' skills as they step into this new role. Several states in the United States have policies in place to require regular training in mental health, substance use, TIC, and suicide prevention for educators already in the workforce (Hopeful Futures Campaign, 2022). However, teacher preparation programs provide an opportune setting within which to lay the foundation for future educators by incorporating TIC and other mental health awareness topics into their curricula.

In addition to exploring baseline reports of previous training and preparation, this study examined participants' change in knowledge of, and attitudes towards, trauma and/or TIC after participation in a 2-day intensive training. As hypothesized, our findings show increases in these domains, indicating that some education can better prepare early career educators to integrate a trauma-informed framework into their teaching practices. Increases in foundational knowledge were also observed, the implications of which may suggest that formal training in TIC may prepare early career educators in developing awareness about the influence of traumatic stress on students' success in the classroom. This may consequently help shift educators' interactions with students to more sensitively meet their unique needs (Anderson et al., 2022). It is also important to note the broad applicability of TIC; practices such as fostering safe relationships, building trust, and promoting student empowerment benefit all students, not just those exposed to potentially traumatic events.

The findings of this study show the applicability of training in trauma and TIC to more novice educators. Just as other training programs have shown increases in knowledge of trauma and/or TIC among in-service educators (Dorado et al, 2016; McIntyre et al. 2018), our study demonstrates that these gains are feasible among pre-service educators as well. This is important, as it is known that pre-service and newer educators experience some of the highest levels of burnout, often due to chronic or secondary traumatic stress (Carver-Thomas & Darling-Hammond, 2019; Kelly & Northrop, 2015; Miller & Flint-Stipp, 2019). As such, an area of opportunity to curb burnout rates among new educators is to integrate comprehensive training on trauma, its impacts, and importantly, how to practice provider self-care in the face of educator stress. Although our study did not evaluate self-care among this sample, as a core tenet of TIC, provider self-care is a critical factor to integrate into professional training with pre-service educators.

As expected, our study found overall increases in positive attitudes towards TIC after formal training in these topics. However, demographic differences were

identified for one subscale of the ARTIC, specifically *Reactions to the Work.* More specifically, pre-service educators in the non-Hispanic/Latinx group showed significantly more favorable reports of their reactions to TIC practices compared to their Hispanic/Latinx counterparts. Less favorable statements on this subscale illustrate a tendency to persevere through vicarious stress instead of practicing self-care or using effective coping skills. For example, participants in this group were more likely to endorse, "the best way to deal with feeling burnt out is not to dwell on it and it will pass," as opposed to seeking support from colleagues or other professionals. Although Western society puts great value on overworking and powering through stress—as well as the stigma associated with mental health support— it is important to consider possible cultural or social influences associated with these findings. These results confirm previous research that has identified strong mental health stigma or low levels of support seeking among Hispanic/Latinx groups (Cabassa et al., 2006; Mendoza et al., 2015). Some interventions aimed at increasing mental health literacy and stigma reduction among the Hispanic/Latinx community have shown some promise, but they are early in their development, and the findings are mixed (Pérez-Flores & Cabassa, 2021). As such, our findings point to the importance of normalizing seeking support for targeted groups in future rollouts of trauma-informed training programs for pre-service educators, whether in their personal lives or in professional settings such as their schools.

The observed increases in trauma knowledge and positive attitudes towards TIC in the current study, in the context of a collaboration between an academic partner and a non-profit organization, show promise for research-practice partnerships (RPP) at the intersection of mental health and education for improving pre-service educator preparation. The use of RPPs spans many fields (e.g., public health) and has demonstrated positive outcomes in education, such as improved teaching practices and learning outcomes among youth (Coburn & Penuel, 2016). As such, these partnerships may be a useful tool to address the need to prepare educators working with vulnerable students with a wide range of traumatic experiences, as well as to prepare educators to promote the social emotional wellbeing of all students using TIC practices. However, teacher preparation programs such as the one mentioned in this study may not be accessible to all future educators. Furthermore, RPPs require significant coordination, and it can be time-intensive to create and deliver such training programs. A challenge for future work, therefore, includes identifying ways to leverage RPPs to make training in trauma and TIC more accessible or generalizable to a wider audience of educators and/or school personnel, particularly as a means of supporting teacher preparation programs

Limitations and Future Directions

While this study provides promising initial evidence that pre-service education on trauma improves knowledge, attitudes, and perceptions of preparedness to support students exposed to trauma for educators entering the profession, there are several limitations that should be noted. Perhaps the most significant limitation is the short assessment time frame. Without longer-term follow-up, the sustained effects of the training cannot be evaluated. In addition, this study relied on self-report measures,

with several questionnaires that had not been validated in prior work. Finally, although representative of the field of education nationally, the sample for this study was largely Caucasian and largely female. Exploratory demographic analyses yielded only one significant result, but it is likely that small sample sizes may have limited the ability to detect small effects.

Future research with longer-term follow-up should explore whether initial gains in knowledge and attitudes persist as early career educators transition to the classroom. Larger and more diverse samples would allow for further exploration of the relationship between race/ethnicity, cultural beliefs and attitudes, and the impact of training on TIC beliefs and attitudes. The finding that foundational training improved attitudes towards TIC are promising; however, attitudes do not always translate to behavioral change. Therefore, future research that examines whether changes in attitude translate to increased use of TIC strategies is needed. Given the strong relationship between secondary traumatic stress and educator burnout and educator turnover, future research should also examine whether TIC training for pre-service educators results in improved educator retention. Importantly, future research should include measurement of student outcomes to examine whether or not changes in educator practice translate to improvements in students' learning ability, social-emotional skills, and/or behavioral regulation in the classroom. Finally, while intensive training workshops such as the one described in this study demonstrate potential to prepare educators to better meet the needs of their students in comparison to receiving little or no such training, sustained support for the practical application of knowledge and skills as well as greater access to such training for all pre-service educators is needed. Integration of these concepts into supervision provided during field placements and mentoring programs for all early-career educators is likely to enhance these effects and should be considered as a future direction for this work.

CONCLUSION

The findings of the current study highlight that many pre-service educators receive insufficient preparation in trauma and TIC at the undergraduate level, despite the critical role educators play in recognizing and responding to symptoms of trauma among students in educational settings. Our results also suggest that training pre-service educators in trauma and TIC improves knowledge, attitudes, and perceptions of preparedness to support youth exposed to trauma. Although these improvements were achieved through a supplemental training curriculum, these findings emphasize the importance of incorporating mandatory pre-service training in trauma and TIC in all universities and training organizations, as a means of supporting emerging educators and the large proportion of youth exposed to childhood trauma.

REFERENCES

Alisic, E. (2012). Teachers' perspectives on providing support to children after trauma: A qualitative study. *School Psychology Quarterly*, *27*(1), 51–59. https://doi.org/10.1037/a0028590

Anda, R. F., Felitti, V. J., Bremner, J. D., Walker, J. D., Whitfield, C. H., Perry, B. D., ... & Giles, W. H. (2006). The enduring effects of abuse and related adverse

experiences in childhood: A convergence of evidence from neurobiology and epidemiology. *European Archives of Psychiatry and Clinical Neuroscience*, *256*, 174-186. https://doi.org/10.1007/s00406-005-0624-4

Anderson, K. M., Haynes, J. D., Ilesanmi, I., & Conner, N. E. (2022). Teacher professional development on trauma-informed care: Tapping into students' inner emotional worlds. *Journal of Education for Students Placed at Risk (JESPAR)*, *27*(1), 59-79. https://doi.org/10.1080/10824669.2021.1977132

Atkins, M. A., & Rodger, S. (2016). Pre-service teacher education for mental health and inclusion in schools. *Exceptionality Education International*, *26*(2). https://doi.org/10.5206/eei.v26i2.7742

Baker, C. N., Brown, S. M., Wilcox, P. D., Overstreet, S., & Arora, P. (2016). Development and psychometric evaluation of the attitudes related to trauma-informed care (ARTIC) scale. *School Mental Health*, *8*, 61-76. https://doi.org/10.1007/s12310-015-9161-0

Bath, H. (2008). The three pillars of trauma-informed care. *Reclaiming Children and Youth*, *17*(3), 17-21.

Baweja, S., Santiago, C. D., Vona, P., Pears, G., Langley, A., & Kataoka, S. (2016). Improving implementation of a school-based program for traumatized students: Identifying factors that promote teacher support and collaboration. *School Mental Health*, *8*(1), 120–131. https://doi.org/10.1007/s12310-015-9170-z

Borofsky, L. A., Kellerman, I., Baucom, B., Oliver, P. H., & Margolin, G. (2013). Community violence exposure and adolescents' school engagement and academic achievement over time. *Psychology of Violence*, *3*(4), 381. https://doi.org/10.1037/a0034121

Brown, E. C., Freedle, A., Hurless, N. L., Miller, R. D., Martin, C., & Paul, Z. A. (2022). Preparing teacher candidates for trauma-informed practices. *Urban Education*, *57*(4), 662-685. https://doi.org/10.1177/0042085920974084

Brunzell, T., Stokes, H., & Waters, L. (2016). Trauma-informed positive education: Using positive psychology to strengthen vulnerable students. *Contemporary School Psychology*, *20*, 63-83. https://doi.org/10.1007/s40688-015-0070-x

Cabassa, L. J., Zayas, L. H., & Hansen, M. C. (2006). Latino adults' access to mental health care: A review of epidemiological studies. *Administration and Policy in Mental Health and Mental Health Services Research*, *33*, 316-330. https://doi.org/10.1007/s10488-006-0040-8

Carver-Thomas, D., & Darling-Hammond, L. (2019). The trouble with teacher turnover: How teacher attrition affects students and schools. Education Policy Analysis Archives, 27(36). https://doi.org/10.14507/epaa.27.3699

Castro Schepers, O. (2023). Exploring the demographics of teachers who experience secondary traumatic stress. *BMC psychology*, *11*(1), 181. https://doi.org/10.1186/s40359-023-01217-z

Chafouleas, S. M., Johnson, A. H., Overstreet, S., & Santos, N. M. (2016). Toward a blueprint for trauma-informed service delivery in schools. *School Mental Health*, *8*, 144-162. https://doi.org/10.1007/s12310-015-9166-8

Chaudhry, T., & Chen, S. H. (2019). Mental illness stigmas in South Asian Americans: A cross-cultural investigation. *Asian American Journal of Psychology*, *10*(2), 154. https://doi.org/10.1037/aap0000141

Cheon, B. K., & Chiao, J. Y. (2012). Cultural variation in implicit mental illness stigma. *Journal of cross-cultural psychology*, *43*(7), 1058-1062. https://doi.org/10.1177/0022022112455457

Child Trauma. SAMHSA. (2024, December 3). https://www.samhsa.gov/mental-health/trauma-violence/child-trauma

Christian-Brandt, A. S., Santacrose, D. E., & Barnett, M. L. (2020). In the trauma-informed care trenches: Teacher compassion satisfaction, secondary traumatic stress, burnout, and intent to leave education within underserved elementary schools. *Child abuse & neglect*, *110*, 104437. https://doi.org/10.1016/j.chiabu.2020.104437

Coburn, C. E., & Penuel, W. R. (2016). Research–practice partnerships in education: Outcomes, dynamics, and open questions. *Educational researcher*, *45*(1), 48-54. https://doi.org/10.3102/0013189X16631750

Copeland, W. E., Keeler, G., Angold, A., & Costello, E. J. (2007). Traumatic events and posttraumatic stress in childhood. *Archives of General Psychiatry*, *64*(5), 577-584. https://doi.org/10.1001/archpsyc.64.5.577

Dong, M., Giles, W. H., Felitti, V. J., Williams, J. E., Dube, S. R., Chapman, D. P., & Anda, R. F. (2004). Insights into causal pathways for ischemic heart disease: An adverse childhood experiences study. *American Journal of Epidemiology*, *157*(11), S28. https://doi.org/10.1161/01.CIR.0000143074.54995.7F

Dorado, J. S., Martinez, M., McArthur, L. E., & Leibovitz, T. (2016). Healthy environments and response to trauma in schools (HEARTS): A whole-school, multi-level, prevention and intervention program for creating trauma-informed, safe and supportive schools. *School Mental Health*, *8*(1), 163–176. https://doi.org/10.1007/s12310-016-9177-0

Downey, J., & Greco, J. (2023). Trauma sensitive schools: A comprehensive guide for the assessment planning and implementation of trauma informed frameworks. *Children and Youth Services Review*, *149*, 106930. https://doi.org/10.1016/j.childyouth.2023.106930

DuPaul, G. J., Reid, R., Anastopoulos, A. D., & Power, T. J. (2014). Assessing ADHD symptomatic behaviors and functional impairment in school settings: Impact of student and teacher characteristics. *School Psychology Quarterly*, *29*(4), 409–421. https://doi.org/10.1037/spq0000095

Dye, H. (2018). The impact and long-term effects of childhood trauma. *Journal of Human Behavior in the Social Environment*, *28*(3), 381-392. https://doi.org/10.1080/10911359.2018.1435328

Edwards, V., Holden, G., Felitti, V., & Anda, R. (2003). Relationship between multiple forms of childhood maltreatment and adult mental health in community respondents: Results from the adverse childhood experiences study. *The American Journal of Psychiatry*, *160*(8), 1453–1460. https://doi.org/10.1176/appi.ajp.160.8.1453

Enoch, M. A. (2011). The role of early life stress as a predictor for alcohol and drug dependence. *Psychopharmacology (Berlin)*, *214*(1), 17–31. https://doi.org/10.1007/s00213-010-1916-6

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., & Marks, J. S. (1998). Relationship of childhood abuse and household

dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) study. *American Journal of Preventive Medicine*, *14*(4), 245–258. https://doi.org/10.1016/s0749-3797(98)00017-8

Finkelhor, D., Turner, H. A., Shattuck, A., & Hamby, S. L. (2015). Prevalence of childhood exposure to violence, crime, and abuse: Results from the national survey of children's exposure to violence. *JAMA Pediatrics*, *169*(8), 746-754. https://doi.org/10.1001/jamapediatrics.2015.0676

Fondren, K., Lawson, M., Speidel, R., McDonnell, C. G., & Valentino, K. (2020). Buffering the effects of childhood trauma within the school setting: A systematic review of trauma-informed and trauma-responsive interventions among trauma-affected youth. *Children and Youth Services Review*, *109*, 104691. https://doi.org/10.1016/j.childyouth.2019.104691

Ford, E. S. (2005). Risks for all-cause mortality, cardiovascular disease, and diabetes associated with the metabolic syndrome. *Diabetes Care*, *28*, 1769–1778. https://doi.org/10.2337/diacare.28.7.1769

García-Carmona, M., Marín, M. D., & Aguayo, R. (2018). Burnout syndrome in secondary school teachers: A systematic review and meta-analysis. *Social Psychology of Education*, *22*, 189-208. https://doi.org/10.1007/s11218-018-9471-9

Goldenthal, H.J., Gouze, K.R., Raviv, T., Tragoudas, G., Holley, C., & Cicchetti, C. (2023). The Ready to Learn through Relationships (RLR) Program: Development, feasibility, and acceptability. *Early Childhood Education Journal.* doi.org/10.1007/s10643-023-01472-0

Harris, S. P., Davies, R. S., Christensen, S. S., Hanks, J., & Bowles, B. (2019). Teacher attrition: Differences in stakeholder perceptions of teacher work conditions. *Education Sciences*, *9*(4), 300. https://doi.org/10.3390/educsci9040300

Hobbs, C., Paulsen, D., & Thomas, J. (2019). Trauma-informed practice for pre-service teachers. In *Oxford Research Encyclopedia of Education*. https://doi.org/10.1093/acrefore/9780190264093.013.1435

Honsinger, C., & Brown, M. H. (2019). Preparing Trauma-Sensitive Teachers: Strategies for Teacher Educators. *Teacher Educators' Journal*, *12*, 129-152.

Hopeful Futures Campaign. (2022). *America's School Mental Health Report Card*. Hopeful Futures Campaign. Retrieved August 19, 2024, from https://hopefulfutures.us/wp-content/uploads/2022/02/Final_Master_021522.pdf

Irwin, V., Bailey, T.M., Panditharatna, R., and Sadeghi, A. (2024). Projections of Education Statistics to 2030 (NCES 2024-034). U.S. Department of Education, Washington, DC: National Center for Education Statistics. Retrieved September 17, 2024, from https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2024034.

Jaycox, L. H., Stein, B. D., & Wong, M. (2014). School intervention related to school and community violence. *Child and Adolescent Psychiatric Clinics*, *23*(2), 281-293. https://psycnet.apa.org/doi/10.1016/j.chc.2013.12.005

Johnson, C., Eva, A. L., Johnson, L., & Walker, B. (2010). Don't turn away: Empowering teachers to support students' mental health. *The Clearing House: A*

Journal of Educational Strategies, Issues and Ideas, *84*(1), 9–14. https://doi.org/10.1080/00098655.2010.484441

Kataoka, S. H., Vona, P., Acuna, A., Jaycox, L., Escudero, P., Rojas, C., ... & Stein, B. D. (2018). Applying a trauma informed school systems approach: Examples from school community-academic partnerships. *Ethnicity & disease*, *28*(Suppl 2), 417. https://doi.org/10.18865/ed.28.s2.417

Kelly, S., & Northrop, L. (2015). Early career outcomes for the "best and the brightest" selectivity, satisfaction, and attrition in the beginning teacher longitudinal survey. *American Educational Research Journal*, *52*(4), 624-656. https://psycnet.apa.org/doi/10.3102/0002831215587352

Koller, J. R., Osterlind, S. J., Paris, K., & Weston, K. J. (2004). Differences between novice and expert teachers' undergraduate preparation and ratings of importance in the area of children's mental health. *International Journal of Mental Health Promotion*, *6*(2), 40-45. https://psycnet.apa.org/doi/10.1080/14623730.2004.9721930

Lieberman, A. F., Chu, A., Van Horn, P., & Harris, W. W. (2011). Trauma in early childhood: Empirical evidence and clinical implications. *Development and psychopathology*, *23*(2), 397-410. https://doi.org/10.1017/s0954579411000137

Magruder, K. M., McLaughlin, K. A., & Elmore Borbon, D. L. (2017). Trauma is a public health issue. *European journal of psychotraumatology*, *8*(1), 1375338. https://doi.org/10.1080/20008198.2017.1375338

Margolius, M., Pufall Jones, E., & Hynes, M. (2020). Creating Cultures of Care: Supporting the Whole Child through Trauma-Informed Practice. *America's Promise Alliance*.

McIntyre, E. M., Baker, C. N., & Overstreet, S. (2018). Evaluating foundational professional development training for trauma-informed approaches in schools. *Psychological services*, *16*(1), 95. https://doi.org/10.1037/ser0000312

McLaughlin, K. A., Colich, N. L., Rodman, A. M., & Weissman, D. G. (2020). Mechanisms linking childhood trauma exposure and psychopathology: A transdiagnostic model of risk and resilience. *BMC Medicine*, *18*, 1–11. doi:10.1186/s12916-020-01561-6

McLaughlin, K. A., Koenen, K. C., Hill, E. D., Petukhova, M., Sampson, N. A., Zaslavsky, A. M., & Kessler, R. C. (2013). Trauma exposure and posttraumatic stress disorder in a national sample of adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry*, *52*(8), 815-830. https://doi.org/10.1016/j.jaac.2013.05.011

Mendelson, T., Tandon, S. D., O'Brennan, L., Leaf, P. J., & Ialongo, N. S. (2015). Brief report: Moving prevention into schools: The impact of a trauma-informed school-based intervention. *Journal of Adolescence*, *43*, 142-147. https://doi.org/10.1016/j.adolescence.2015.05.017

Mendoza, H., Masuda, A., & Swartout, K. M. (2015). Mental health stigma and self-concealment as predictors of help-seeking attitudes among Latina/o college students in the United States. *International Journal for the Advancement of Counselling*, *37*, 207-222. https://doi/10.1007/s10447-015-9237-4

Miller, K., & Flint-Stipp, K. (2019). Preservice teacher burnout: Secondary trauma and self-care issues in teacher education. *Issues in Teacher Education*, *28*(2), 28-45.

National Child Traumatic Stress Network, Schools Committee. (2017). *Creating, supporting, and sustaining trauma-informed schools: A system framework.* Los Angeles, CA, and Durham, NC: National Center for Child Traumatic Stress.

National Scientific Council on the Developing Child. (2015). *Supportive relationships and active skill-building strengthen the foundations of resilience* (Working paper no. 13). Retrieved from http://www.developingchild.harvard.edu

Nemeroff, C. B. (2004). Neurobiological consequences of childhood trauma. *Journal of Clinical Psychiatry*, *65*, 18–28.

Oberg, G., Carroll, A., & Macmahon, S. (2023, March). Compassion fatigue and secondary traumatic stress in teachers: How they contribute to burnout and how they are related to trauma-awareness. In *Frontiers in Education* (Vol. 8, p. 1128618). Frontiers. https://doi.org/10.3389/feduc.2023.1128618?urlappend=%3Futm_source%3Dresearchgate.net%26utm_medium%3Darticle

Oh, D. L., Jerman, P., Silvério Marques, S., Koita, K., Purewal Boparai, S. K., Burke Harris, N., & Bucci, M. (2018). Systematic review of pediatric health outcomes associated with childhood adversity. *BMC Pediatrics*, *18*, 1-19. https://doi.org/10.1186/s12887-018-1037-7

Pérez-Flores, N. J., & Cabassa, L. J. (2021). Effectiveness of mental health literacy and stigma interventions for Latino/a adults in the United States: A systematic review. *Stigma and health*, *6*(4), 430. https://doi.org/10.1037/sah0000343

Perfect, M. M., Turley, M. R., Carlson, J. S., Yohanna, J., & Saint Gilles, M. P. (2016). School-related outcomes of traumatic event exposure and traumatic stress symptoms in students: A systematic review of research from 1990 to 2015. *School Mental Health*, *8*, 7-43. https://doi/10.1007/s12310-016-9175-2

Perry, B. D. (2006). Applying principles of neurodevelopment to clinical work with maltreated and traumatized children: The Neurosequential Model of Therapeutics. In N. B. Webb (Ed.), *Working with traumatized youth in child welfare* (pp. 27–52). New York, NY: Guilford Press.

Phifer, L. W., & Hull, R. (2016). Helping students heal: Observations of trauma-informed practices in the schools. *School Mental Health*, *8*, 201-205. https://doi/10.1007/s12310-016-9183-2

Reddig, N., & VanLone, J. (2022). Pre-service teacher preparation in trauma-informed pedagogy: A review of state competencies. *Leadership and Policy in Schools*, 1-12. https://doi.org/10.1080/15700763.2022.2066547

Reinke, W. M., Stormont, M., Herman, K. C., Puri, R., & Goel, N. (2011). Supporting children's mental health in schools: Teacher perceptions of needs, roles, and barriers. *School Psychology Quarterly*, *26*(1), 1–13. https://doi.org/10.1037/a0022714

RStudio Team (2020). *RStudio: Integrated Development for R.* RStudio, PBC, Boston, MA. http://www.rstudio.com/.

Saleem, F. T., Anderson, R. E., & Williams, M. (2020). Addressing the "myth" of racial trauma: Developmental and ecological considerations for youth of color. *Clinical Child and Family Psychology Review*, *23*, 1-14. https://doi.org/10.1007/s10567-019-00304-1

Santiago, C.D., Raviv, T., & Jaycox, L. (2018). Creating Healing School Communities: School-Based Interventions for Students Exposed to Trauma. Washington, DC: American Psychological Association.

Schaeffer, K. (2024, September 24). *Key facts about public school teachers in the U.S.* Pew Research Center. https://www.pewresearch.org/short-reads/2024/09/24/key-facts-about-public-school-teachers-in-the-u-s/

Stark, E. A., Parsons, C. E., Van Hartevelt, T. J., Charquero-Ballester, M., McManners, H., Ehlers, A., et al. (2015). Post-traumatic stress influences the brain even in the absence of symptoms: A systematic, quantitative meta-analysis of neuroimaging studies. *Neuroscience and Biobehavioral Reviews, 56,* 207–221. https://doi.org/10.1016/j.neubiorev.2015.07.007

Stempel, H., Cox-Martin, M., Bronsert, M., Dickinson, L. M., & Allison, M. A. (2017). Chronic school absenteeism and the role of adverse childhood experiences. *Academic Pediatrics*, *17*(8), 837-843. https://doi.org/10.1016/j.acap.2017.09.013

Substance Abuse and Mental Health Services Administration [SAMHSA]. (2014). *SAMHSA's concept of trauma and guidance for a trauma-informed approach*. HHS Publication No. (SMA) 14-4884. Rockville, MD: Substance Abuse and Mental Health Services Administration.

Sutcher, L., Darling-Hammond, L., & Carver-Thomas, D. (2016). A coming crisis in teaching? Teacher supply, demand, and shortages in the US. *Learning Policy Institute*.

Thomas, M. S., Crosby, S., & Vanderhaar, J. (2019). Trauma-informed practices in schools across two decades: An interdisciplinary review of research. *Review of Research in Education*, *43*(1), 422-452. https://doi.org/10.3102/0091732X18821123

Wei, Y., Carr, W., Alaffe, R., & Kutcher, S. (2020). Mental health literacy development: Application of online and in-person professional development for preservice teachers to address knowledge, stigma, and help-seeking intentions. *Canadian Journal of Behavioural Science / Revue canadienne des sciences du comportement, 52*(2), 107–114. https://doi.org/10.1037/cbs0000164

Zhang, G., & Zeller, N. (2016). A longitudinal investigation of the relationship between teacher preparation and teacher retention. *Teacher Education Quarterly*, *43*(2), 73-92.

Zolezzi, M., Alamri, M., Shaar, S., & Rainkie, D. (2018). Stigma associated with mental illness and its treatment in the Arab culture: a systematic review. *International Journal of Social Psychiatry*, *64*(6), 597-609. https://doi.org/10.1177/0020764018789200

SAADIA ELAHI, MS is a doctoral candidate in clinical psychology at Northwestern University, Feinberg School of Medicine and a graduate research assistant at the Center for Childhood Resilience at Ann & Robert H. Lurie Children's Hospital. Her research interests include implementation and effectiveness of school-based mental health interventions as a means to increase service access for traditionally underserved youth. Email: saadia.elahi@northwestern.edu.

ANNA W. SROKA, MS, is a clinical psychology doctoral student at Northwestern University, Feinberg School of Medicine and a graduate research assistant at the Center for Childhood Resilience within Ann & Robert H. Lurie Children's Hospital. Her major research interests include development and dissemination of accessible, evidence-based, and trauma-informed programming for families of young children. Email: asroka@luriechildrens.org

MARGARET MELDRUM, MA, MEd, is a clinical psychology doctoral student at the University of Virginia. Her research focuses on adolescent social, emotional, and identity development, and school- and community-based programs and interventions to support these areas. Email: mem5xn@virginia.edu

KAREN R. GOUZE, PhD is professor emerita at Northwestern University, Feinberg School of Medicine. Her research interests lie in the areas of developmental psychopathology and school-based mental health. Email: k-gouze@northwestern.edu

COLLEEN CICCHETTI, PhD is the Executive Director of the Center for Childhood Resilience at Ann & Robert H. Lurie Children's Hospital of Chicago and Professor at Northwestern University, Feinberg School of Medicine. Her research focuses on the effectiveness, implementation, and dissemination of school-and community-based interventions, programs and policies. Email: ccicchet@luriechildrens.org

CARYN CURRY, LCSW is the Director of Organizational Excellence at the Center for Childhood Resilience (CCR) at Ann & Robert H. Lurie Children's Hospital of Chicago. She is the leader of the partnership between CCR and the Golden Apple Foundation. Email: cacurry@luriechildrens.org

TALI RAVIV, PhD is a clinical psychologist at Ann & Robert H. Lurie Children's Hospital of Chicago and Associate Professor at Northwestern University, Feinberg School of Medicine. Her research focuses on the effectiveness, implementation, and dissemination of school-and community-based mental health programs and interventions. Email: traviv@luriechildrens.org