

Assessing North Carolina Pre-K Teachers' Knowledge, Confidence, and Experience on Trauma Informed Care

Chalyne Barrow, Archana V. Hegde, Mary Cate Komoski, and Erin Roberts

East Carolina University, Greenville, NC, USA

Abstract

The purpose of this study was to assess NC Pre-K teachers' knowledge on trauma and trauma-informed practices, their confidence in actions with students who have experienced trauma, and training – received or desired by teachers – on trauma-informed care (TIC). Quantitative data was collected using a standardized Primary Early Childhood Educators Trauma-Informed Care Survey for Knowledge, Confidence, and Relationship Building scale (PECE-TICKCR, 2017). All participating NC Pre-K teachers (n=68) were females and had a 4-year degree in early childhood or another related field. Teachers' knowledge on trauma and their confidence in their own actions were highly correlated ($r=.73$). Similarly, mean scores indicated that teachers understand how trauma affects student behavior ($M=3.93$), and on the confidence scale teachers felt most confident in their ability to maintain positive relationships with students. However, teachers need more training on some items on the scale of knowledge (e.g. Community resources for families who have experienced trauma) and confidence (appropriate steps to be taken if a student has experienced trauma). Teachers who have experience working with children of trauma were more knowledgeable and confident in their actions related to TIC, compared to teachers with no experience. Teachers continue to express their interest in receiving more training on topics related to TIC.

Keywords: trauma-informed care, NC Pre-K teachers, teacher knowledge, teacher confidence, early childhood education, training need

Introduction

Trauma is defined as “an event, series of events, or set of circumstances experienced by an individual as physically or emotionally harmful or life-threatening with lasting adverse effects on the individual's functioning and mental, physical, social, emotional, or spiritual well-being” (Substance Abuse and Mental Health Administration [SAMHSA], 2014, p. 7). Early trauma exposure can significantly impact children's socioemotional development, self-regulation, student-teacher relationships (Loomis & Mogro-Wilson, 2019), academic performance, and behavior (Jimenez et al., 2016).

In North Carolina, the prevalence of adverse childhood experiences (ACEs) has increased. In 2019, 26.4% of children had experienced at least one ACE, and 15.3% had experienced two or more (Parks & Gitterman, 2022). By 2022, about 40% had experienced at least one ACE, and 20% had experienced two or more. Exposures to ACEs are linked to internalizing and externalizing behaviors, social difficulties, and problems with play and attention (Liming & Grube, 2018). Such issues are especially concerning as children enter structured environments like school.

The quality of the learning environment depends on the skills and training teachers receive to support students' emotional and behavioral needs (Kelly et al., 2024). For early childhood educators (ECEs), trauma-informed care training helps manage challenging behaviors and fosters a supportive space for emotional and academic growth (Mortensen & Barnett, 2016). Addressing trauma early can create a ripple effect that benefits children, families, and educators.

Despite its importance, little research exists on how NC Pre-K teachers address trauma in their classrooms. To better support educators, especially in Eastern NC, a baseline understanding is needed. This study aims to assess NC Pre-K teachers' knowledge of trauma and trauma-informed practices, their confidence in supporting affected students, and the training they have received or still need.

Literature Review

Adverse Childhood Experiences and Their Impact on Child Development

Research consistently shows that early exposure to adverse childhood experiences (ACEs) is linked to academic and behavioral challenges. Choi et al. (2019) showed that ACE exposure at ages three, five, nine, and fifteen increased the risk of future behavioral problems. Similarly, Jimenez et al. (2016), using data from the Fragile Families and Child Wellbeing Study reported that children with more ACEs were more likely to have below-average academic skills, particularly in literacy, and exhibit behavioral difficulties in kindergarten.

Other studies have highlighted the broader impact of ACEs on school functioning. Blodgett and Lanigan (2018), using educator reports from 10 classrooms across four districts, found that ACE exposure was associated with academic failure, attendance issues, and behavioral problems. McKelvey et al. (2018) extended these findings by examining ACEs in infancy and toddlerhood. Children exposed to three or more ACEs before age three were more likely to have an IEP and show internalizing and attention-related behaviors.

Together, these studies underscore the lasting consequences of early trauma on children's ability to succeed in school. ACE exposure increases the likelihood of academic and behavioral struggles, disrupts learning, and contributes to attendance problems. These findings reinforce the importance of equipping teachers with the knowledge and skills to recognize and respond to trauma, positioning them as potential buffers between students and the effects of trauma.

Teachers as Buffers Against Effects of Adverse Childhood Experiences (ACEs)

Teacher-student relationships play a critical role in shaping children's development, particularly in early childhood. While these interactions are essential for fostering growth, research suggests that their quality varies across the country (Pianta et al., 2005). For example, Kuhfeld et al. (2019) revealed that children from low-income backgrounds and African American children were less likely to experience effective interactions in early

childhood programs. To prevent such disparities, it is essential that early childhood educators (ECEs) are trained to meet the diverse needs of all students.

Positive teacher-student relationships may also serve as a protective factor against the negative effects of ACEs. Murphy and Sacks (2019) emphasize that stable, supportive relationships with caregivers—including teachers—can buffer children from the impact of early trauma. These relationships are linked to improved academic achievement (Hu et al., 2016), increased motivation, and better behavioral and social outcomes (Wang et al., 2020).

Early Childhood Education (ECE) teachers play a vital role in supporting both the educational and socioemotional development of young children. Their daily interactions directly influence children's emotional well-being and classroom behavior (Mortensen & Barnett, 2016). A nurturing classroom environment contributes to children's behavioral, emotional, and physical development (Ritblatt et al., 2017). Factors such as teachers' experience and educational background also affect their ability to foster positive socioemotional learning (Clotfelter et al., 2011; Glock & Böhmer, 2018). Ensuring that ECE teachers are well-prepared and supported is essential for promoting equitable and trauma-informed care in early learning settings.

Teachers' Age, Experience, and Ethnicity and Their Relation to/Impact on Trauma-informed Care

Research suggests that teacher age and experience influence how they interpret student behavior when using a trauma-informed framework. Glock and Böhmer (2018) revealed that teachers with less experience (average of 12 weeks) held fewer negative attitudes toward ethnic minority students than those with more experience (average of 15 years). Among experienced teachers, younger individuals were least biased toward minority students, suggesting that age and experience interact in shaping perceptions.

While teaching experience is often linked to improved student achievement (Kini & Podolsky, 2016), its role in trauma-informed care is less clear. Studies show no significant difference between novice and experienced teachers in their ability to support students affected by trauma (Graham et al., 2020; Stuhlman & Pianta, 2009). A review of literature revealed a gap in research specifically comparing novice and experienced teachers' capacity to respond to trauma in early childhood settings.

Teacher ethnicity may also influence responses to students from different backgrounds. Glock and Kleen (2019) found that teachers from ethnic minority groups showed less bias toward minority students than those from majority groups. Frühauf et al. (2024) explored how preservice teachers of Turkish and German backgrounds were perceived in terms of bias. Results of this study indicated that teachers belonging to an ethnic minority group were perceived as less biased towards immigrant students compared to teachers belonging in ethnic minority groups. The demographic mismatch between teachers and students has received growing attention in recent years (Gottfried & Fletcher, 2023; Lindsay & Hart, 2017), yet little research has examined how this disparity affects trauma-informed care.

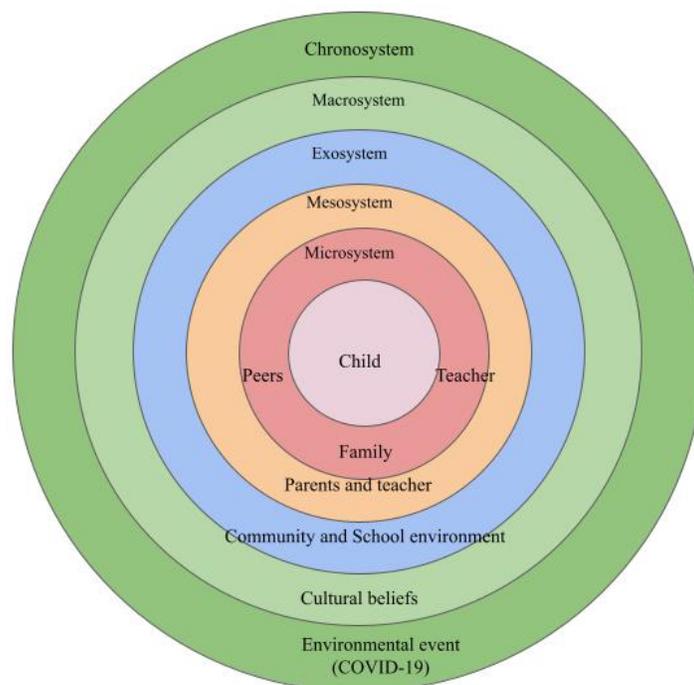
Impact of Trauma Informed Training and Implementation on Teachers

A growing body of research highlights the effectiveness of trauma-informed training in increasing teachers' knowledge and confidence. One study evaluated a two-day professional development using pre- and post-training measures, based on SAMHSA's (2014) four key assumptions: realizing the impact of trauma, recognizing its signs, responding with appropriate strategies, and avoiding re-traumatization. Results showed a clear increase in teachers' understanding and acceptance of trauma-informed practices following the training.

The University of California, San Francisco's Healthy Environments and Response to in Schools initiative aimed to create trauma-informed environments in under-resourced schools (Dorado et al., 2016). Training focused on understanding trauma and its influence on student behavior. Findings indicated significant gains in staff knowledge and use of trauma-informed strategies. Similarly, Brown et al. (2022) assessed educators' knowledge, attitudes, and skills related to working with trauma-impacted students. Post-training surveys revealed increased preparedness, clarity in roles, and a desire for more resources and strategies to support students effectively. Overall, the literature underscores both the effectiveness of trauma-informed training and educators' strong interest in continued professional development.

Theoretical Framework

Figure 1
Bronfenbrenner's Ecological Systems Model



Bronfenbrenner's Ecological Systems Theory offers a valuable framework for understanding how trauma-informed practices influence teacher-student interactions. According to Bronfenbrenner (1977), a child's development is shaped by multiple systems, including family, school, and community. Exposure to trauma at home can influence a child's behavior and learning, making daily teacher-student interactions critical for supporting emotional and social growth (Ansari & Pianta, 2018). The mesosystem reflects the connections between these environments, such as collaboration between teachers and families. When educators share strategies with caregivers to support children exposed to trauma, it can strengthen developmental outcomes and foster consistency across settings.

The outer systems—exosystem, macrosystem, and chronosystem—also shape children's experiences. School policies that prioritize trauma-informed care and invest in teacher training can create supportive environments, even if children are not directly involved in those decisions. The chronosystem includes historical and environmental events that impact development over time. The COVID-19 pandemic, for example, intensified existing educational inequalities (Zahedivash et al., 2023), leading to declines in Early Start and Early Childhood Special Education enrollment (Friedman-Krauss & Barnett, 2023). Overall, Bronfenbrenner's theory helps explain how teachers' trauma-informed knowledge and practices can shape the environments children interact with daily, ultimately influencing their developmental trajectories.

Purpose of Study

To understand what support is needed in Eastern NC to assist NC Pre-K teachers in implementing trauma-informed care, a baseline must be established. Thus, the purpose of this study was to obtain an understanding of the attitudes, knowledge, and confidence that NC Pre-K teachers have in trauma-informed care. The following research questions guided the research study:

1. How knowledgeable are NC Pre-K teachers about trauma-informed care (TIC)?
 - a. Does teachers' age, experience level correlate with their knowledge on trauma-informed care?
 - b. Does teachers' knowledge on TIC differ based on their ethnicity?
2. How confident are NC Pre-K teachers about their actions with students who have experienced trauma?
 - c. Does teachers' age, experience level correlate with their confidence levels?
 - d. Does teachers' confidence differ based on their ethnicity?
What experiences do NC Pre-K have with regards to working with children who have experienced trauma?
 - e. Do teachers' knowledge and confidence scores on TIC differ for teachers who have experience working with children of trauma versus teachers who have no experience working with children of trauma?
3. What training have NC Pre-K teachers received and want more on trauma-informed care?

Method

Design

This exploratory study utilized a standardized survey to assess NC Pre-K teachers' knowledge, confidence working with traumatized children, prior experience working with children who have experienced trauma, and training they have received and want on this topic. To our knowledge, this topic has not been studied with this specific population of teachers.

Participants

Eligible participants for this study were lead NC Pre-K teachers throughout Eastern North Carolina, associated with the University Early Educator Support (EES) Hub. The EES functions as a unit of the North Carolina Division of Child Development and Early Education. A purposive sampling technique was employed to recruit and survey NC Pre-K teachers. The EES coordinator was emailed to request assistance in sending out the initial email invitation to NC Pre-K teachers. The email sent to teachers described the study and included the survey as an attachment.

Procedure for Data Collection

The survey was administered utilizing the survey software, Qualtrics, which was made available for participants through a link emailed by the EES coordinator. Participants were informed that the survey would take 15-20 minutes to complete. To ensure anonymity and confidentiality for participants, survey responses were not linked to any identifying information such as Internet protocol addresses, and data was reported in aggregate form.

Measures

The Primary Early Childhood Educators Trauma-Informed Care Survey for Knowledge, Confidence, and Relationship Building (PECE-TICKCR) scale was created by Bilbrey et al. (2022). The scale was adapted from the TIC-DS scale (Goodwin-Glick in Impact of trauma-informed care professional development of school personnel perceptions of knowledge, disposition, and behaviors towards traumatized students, Graduate College of Bowling Green State University, 2017). This scale has been validated and has a strong reported Cronbach's alpha for each of the subscales; Knowledge of Trauma ($n = 11$, $\alpha = .948$); Confidence in Providing Trauma-Informed Strategies ($n=13$, $\alpha=.940$); and Confidence in Creating Supportive Relationships ($n=4$, $\alpha=.865$). The Cronbach's alpha acquired within the current study was strong as well; Knowledge of Trauma ($n = 11$, $\alpha = .944$); Confidence in Providing Trauma-Informed Strategies ($n=13$, $\alpha=.945$).

Description of the Survey and Subscales:

There were 6 sections in this survey. The first section that was measured on a Likert scale consisted of eleven questions that asked participants how knowledgeable they were about a variety of topics related to trauma-informed care in early childhood. The second section had thirteen questions that asked how confident participants were about a variety of actions related to trauma-informed care. This section was measured on a Likert scale ranging from "1" not confident at all to "5" very confident.

The third section consisted of three questions, which were asked about participants' experience of working with children who have been traumatized. The fourth section consisted of nine questions, which were specific to training on trauma-informed care that participants have received and future trainings that they might want. The fifth section consisted of eight questions that asked for information regarding participants' work. The last section contained demographic questions that asked participants about their age, race/ethnicity, educational level, licensure, and experience in the field.

Data Management

At the end of the data collection period, participants' responses were exported from Qualtrics to the primary researcher's SPSS software, which is software protected.

Data Analysis

Mean, standard deviation, and frequency were used to describe demographic data and describe overall scores on different subscales (e.g., knowledge or confidence in action). Pearson's Correlation Coefficient was utilized to examine the relationships between ratio level variables (e.g., age and experience level), while one-way ANOVA was used to compare subscale means on teacher knowledge and confidence level in actions across racial/ethnic groups and between teachers who had worked with children who had experienced trauma and teachers who had not worked with children who had experienced trauma.

Results

Demographic Information

NC Pre-K teachers based in the Eastern North Carolina region associated with the EES hub were the participants in this study. The survey was sent out to over 200 teachers, with a total of 81 individuals responding. Thirteen participants were removed because they did not consent to participate in the study.

There were three participants who had partially completed the knowledge scale. So, the researcher ran the Missing Completely at Random Data Analysis (MCRDA) within SPSS, and the MCRDA test was not significant ($P > 0.05$), which indicated that the data were missing completely at random, and the researcher could go in for a mean imputation. Thus, after a mean imputation for the scale, there were 68 complete responses from the participants.

Table 1

Participants' Demographic Information

Demographics	Descriptive Statistics
Gender: Female ($n=68$)	68 (100%)
Race/Ethnicity ($n=65$)	
White/Caucasian	31 (48%)
Black/African American	26 (40%)
Hispanic/Latino(a)	4 (6%)
Native American	2 (3%)
Biracial	2 (3%)

Age ($n=61$)	$M= 44.36, SD= 10.25$
Years employed as a teacher ($n=63$)	$M=6.77, SD= 5.77$
Less than a year	1 (1.6%)
1-5 years	11 (17.5)
6-10 years	12 (19%)
11-20 years	24 (38%)
More than 20 years	15 (24%)
Licensure ($n=65$)	
Birth to Kindergarten (BK)	50 (77%)
B-K Add-on	9 (6%)
Pre-K Add-on	1 (1.5%)
Elementary	1 (1.5%)
Other	4 (6.2%)
No licensure	3 (4.6%)
School setting	
Suburban	11 (17.2%)
Rural	16 (25%)
Urban	16 (25%)
Combination	6 (9.4%)
Not sure	15 (23.4%)
Students receiving free/reduced price meals ($n=65$)	
Unknown	20 (31%)
Less than 25%	3 (5%)
26-50%	2 (3%)
51-75%	4 (6%)
76-85%	9 (14%)
86-100%	27 (42%)

Teachers' Knowledge about Trauma

The first research question addressed *how knowledgeable NC Pre-K teachers were about trauma-informed care*. To examine teachers' knowledge on the topic of trauma-informed care, mean composite scores were calculated from the 11 questions in the PECE-TKR scale. The overall means on the knowledge scale ranged between 1.45 and 5.00, while participant responses concerning trauma ranged between very little knowledge (3.15) and very knowledgeable (3.93).

Teachers' Confidence in Providing Trauma-Informed Strategies

The second research question addressed *how confident NC Pre-K teachers are in their actions while working with students of trauma*. To examine teachers' confidence in taking action, mean composite scores were calculated for the 13 questions in the PECE-TKR scale. The overall mean scores for this sub-scale ranged between 2.08 to 5.00. Participant responses ranged between slightly confident (3.53) to very confident (4.31).

Correlations Between Teacher Knowledge and Confidence Levels and Teacher Age and Years of Experience

The correlation analysis revealed a significant and strong positive relationship between teachers' knowledge and confidence, thus indicating that teachers' higher knowledge scores were associated with their higher confidence scores.

However, teachers' age and knowledge on TIC ($r = 0.09$) and teachers' experience level and knowledge on TIC ($r = -0.20$) did not correlate significantly. Similarly, teachers' confidence in action with students and their age ($r = -0.16$) and teachers' confidence in action with students and their experience level ($r = -0.16$) did not significantly correlate with each other.

Table 2

Correlation Matrix among Knowledge, Confidence, Age, and Experience of NC Pre-K Teachers (n=68)

Variable	1	2	3	4
1. Knowledge	---	.73**	-.90	-.03
2. Confidence	.73**	---	-.16	-.06
3. Age	-.09	-.16	---	---
4. Years of experience	-.03	-.06	---	---

Correlation is significant at the 0.01 level (2-tailed).

Differences in Teacher Knowledge and Confidence Levels Based on Teacher Ethnicity

Table 3

Mean, Standard deviation, and One-Way Analyses of Variance of differences in teachers' knowledge and confidence based on ethnicity

Measure	Race/Ethnicity	M	SD		Sum of Squares	df	Mean Square	F	p
Knowledge	White/Caucasian	3.55	.69	Between groups	1.76	4	.44	.797	.532
	Black/African American	3.48	.79						
	Hispanic/Latino(a)	2.95	.96	Within groups	33.05	60	.55		
	Native American	3.86	.19						
	Biracial								
Confidence	White/Caucasian	3.94	.61	Between groups	.36	4	.09	.203	.936
	Black/African American	3.87	.74						
	Hispanic/Latino(a)	3.65	1.03	Within groups	26.89	60	.45		
	Native American	4.08	.11						
	Biracial								

Teachers' Experience of Working with Children Who Have Experienced Trauma

We investigated if teachers who have worked with trauma-affected students differed in their knowledge and confidence scores from teachers who have not worked with such students. The One-way ANOVA results were highly significant for teacher knowledge scores ($F(1, 66) = 4.88, p < .03$) and teacher confidence scores ($F(1, 66) = 7.40, p < .01$). This indicates that teachers who have had experience with trauma-affected children are more knowledgeable and more confident in their actions as they work with traumatized students, compared to teachers with no such experience.

Training Received and Wanted on Trauma-Informed Care

The fourth research question examined the amount of trauma-informed training received and wanted by the teachers. Participants were asked about the frequency of trainings they attended as well as the topics they received training in. Most participants indicated they attended one or two trainings (32.7% & 23.6% respectively) within the last three years, while 3.6% attended more than 10 trainings. Some topics of trainings attended by most participants included: what is early childhood trauma, the impact of trauma in early childhood years, causes of early childhood trauma, and the impact of early trauma in childhood years. Topics that were discussed the least in trainings were: how to support parents of children who experienced trauma, available resources for families and children dealing with trauma, and self-care strategies for teachers who worked with children experiencing trauma.

Discussion

This study examined NC Pre-K teachers' knowledge, confidence, and training needs related to trauma-informed care. Many teachers reported being knowledgeable about how trauma affects student behavior and learning, as well as how their own actions may impact students who have experienced trauma. However, they also noted limited awareness of available community resources to support families—findings consistent with previous research (Alisic et al., 2012; Bilbrey et al., 2022).

Regarding confidence, teachers felt most assured in their ability to maintain positive relationships with students, which aligns with their educational philosophy. Yet, they expressed lower confidence in identifying trauma through behavioral observations, taking appropriate steps when trauma is suspected, and supporting students who have experienced trauma. These skill-based areas are typically developed through targeted training, suggesting a need for more professional development. These findings mirror those of Alisic (2012), who found that elementary teachers often struggled to provide actionable support to trauma-affected students.

A strong, positive correlation was found between teachers' trauma-related knowledge and their confidence in supporting students, indicating that increased knowledge may enhance confidence. This reinforces the importance of equipping educators with trauma-informed training to help them meet students' socioemotional needs (Russell et al., 2024).

The study also explored whether teacher age and experience correlated with knowledge and confidence. Although it was hypothesized that older and more experienced teachers

would report higher levels, results were not significant. This aligns with prior research showing no meaningful differences between novice and experienced teachers in their ability to support trauma-affected students (Graham et al., 2020; Stuhlman & Pianta, 2009). Interestingly, other studies suggest younger teachers may be less biased in working with trauma-affected students (Conaway & Bethune, 2015), but this was not reflected in the current findings.

Differences in knowledge and confidence across ethnic groups were also examined. While previous research suggests that teachers from minority backgrounds may show less bias toward minority students (Glock & Kleen, 2019), ANOVA results in this study were not significant, indicating no differences in trauma-related knowledge or confidence across ethnicities.

Most teachers reported having worked with students who experienced trauma. Further analysis revealed that those with direct experience had significantly higher knowledge and confidence scores than those without, suggesting that firsthand exposure may enhance preparedness.

Finally, teachers shared the types of trauma-related training they had received and their interest in future training. Most had learned about early childhood trauma and its causes and impacts. However, they expressed a strong desire for additional training on self-care, community resources, classroom strategies, and how to identify and respond to trauma. These findings echo prior studies (Alisic, 2012; Bilbrey et al., 2022; Brown et al., 2022), highlighting educators' need for both foundational knowledge and practical strategies to support trauma-affected students and families.

Strengths and Limitations

The findings from this study serve to provide insight into the knowledge, confidence, and training that exist within NC Pre-K settings that teachers have access to, and topics for future training that can be explored further. Thus, this study is unique and required within the early childhood setting. A limitation of this study was its sample size and location. A larger sample size with a more diverse sample recruited across the different counties of North Carolina could be utilized to make the findings more generalizable. It is also important that future researchers consider that for one of the variables studied (teachers with experience working with children of trauma and not) the study had unequal group sizes.

Since this was a quantitative study, which utilized a standardized survey, researchers were limited in how responses were collected. The measurement tool used, which relied on self-reporting data, had little to no scope for open-ended responses. Future research may benefit from adding a few more open-ended questions at the end of the survey to collect more thoughts from the teachers on this topic. It is also worth considering that participants may have evaluated themselves in a more positive light, which could have impacted the data.

Conclusion

This study shed light on the knowledge, confidence, and training needs of NC Pre-K teachers in the area of trauma-informed care. The findings reveal a strong correlation between teachers' understanding of trauma and their confidence in their own actions, underscoring the importance of training on this topic. Training in trauma-informed care not only equips teachers with essential knowledge about trauma and its effects on student behavior but also has the potential to boost their confidence in effectively interacting with and supporting students who have experienced trauma. By enhancing teachers' skills and self-assurance, such training can significantly improve their ability to create a supportive and responsive classroom environment for all students.

This study has significant implications for both pre-service and in-service teacher training programs. It suggests that training should prioritize the areas where teachers have shown the most interest. This includes understanding and utilizing community resources for children and families, effective classroom strategies, and response strategies they can utilize to support student behaviors that stem from trauma responses. As research suggests, teachers without strategies for supporting students experiencing trauma might inadvertently impede those students' ability to self-regulate and participate in learning (Brunzell et al., 2018). By focusing on these critical topics, training programs can better equip teachers to meet the diverse needs of their students and foster a more supportive educational environment.

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Author Notes

Chalyne Barrow is a dedicated scholar at East Carolina University, where she pursued her master's in Human Development and Family Science. Her academic interests include early childhood education, trauma-informed care, and Family Life Education with a particular focus on Teacher preparedness. Chalyne has contributed to various research projects and continues to engage in scholarly activities that aim to improve understanding and practice in her field.

Archana V. Hegde, PhD, BK is a Nancy Darden Endowed Professor in the Department of Human Development and Family Science, housed in the College of Health and Human Performance at East Carolina University. She has extensively published on topics related to quality childcare, inclusion, STEM education and teacher professional development.

She has parallel interest in trauma informed care and practices, and this current publication is part of her mentee's work; she chaired this project.

Mary Cate Komoski, PhD is an assistant professor in the Department of Human Development and Family Science, housed in the College of Health and Human Performance at East Carolina University. With her background in educational psychology, Dr. Komoski focuses on the intersection of wellbeing and schools. Her interests include how adolescents conceptualize trauma and teacher burnout prevention.

Erin Roberts, Ph.D., LMFT is a trained and licensed therapist, who has also led efforts on work related to Trauma, and help establish The Consortium for Trauma and Resiliency Research (CTRR). at East Carolina University. Since then she has started her own private practice and serves the community at large. She was an integral part of this thesis committee.