ASSESSING NORTH CAROLINA PRE-K TEACHERS' KNOWLEDGE, CONFIDENCE, AND EXPERIENCE ON TRAUMA INFORMED CARE

by

Chalyne Barrow

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Director of Thesis: Archana V. Hegde, PhD

Major Department: Human Development and Family Science

ABSTRACT

The purpose of this study was to assess teachers' knowledge on trauma and trauma-informed practices, the confidence teachers have in their actions with their students who have experienced trauma, and training received and wanted by NC Pre-K teachers on trauma-informed care. Quantitative data was collected utilizing 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 other related field. Teachers' knowledge related to trauma and their confidence in their own actions were highly correlated. However, teachers showcased they were most knowledgeable about the impact trauma has on students behavior with a mean of (3.93), compared to three other items on knowledge such as resources available to students and families who have experienced trauma (M=3.15), steps to take once a student is identified as experiencing trauma (M= 3.28), and steps to take if a student is suspected has experienced trauma (M=3.32). Similarly, observed means on the confidence scale revealed that teachers felt most confident in their ability to be positive with their students (M=4.31), compared to three other items on confidence like taking appropriate steps if a student is suspected of experiencing

trauma (M=3.53), making behavioral observations when interacting with students (M=3.59), and taking steps to support students who have experienced a traumatic event (M=3.59). Further teachers who have experience working with children of trauma were more knowledgeable about trauma-informed care and also more confident in their actions as they worked with students on a daily basis compared to teachers who have never worked with children who are experiencing or have experienced trauma. No differences were found between teachers' knowledge and confidence levels based on their age or ethnic identities. Teachers continue to express interest in receiving more training on topics related to trauma-informed care. The study findings have implications for both, teacher preparation programs and teacher professional development and training, both at the pre-service and in-service training levels.

Key words: trauma- informed care, NC Pre-K teachers, teacher knowledge, teacher confidence, early childhood education, training needs

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Chalyne Barrow

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Director of Thesis: Archana V. Hegde, PhD
Thesis Committee Members:
Mary Cate Komoski, PhD
Erin Roberts, PhD

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CHAPTER 1: INTRODUCTION

Trauma can be 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" (SAMHSA, 2014, p. 7). As research has shown, there are many damaging effects that occur for children with early trauma exposures and experiences. This includes negative associations with the development of socioemotional skills, self-regulation, student teacher relationships (Loomis & Mogro-Wilson, 2019) academic achievement, and behavioral problems (Jimenez et al., 2016). Given that early childhood is a critical period of development, it is crucial that necessary support is in place to aid in the social, emotional, behavioral, and academic development of children. This includes the support of parents, guardians, and teachers who all play a crucial role in nurturing and molding children at this age. In addition to the negative outcomes associated with trauma exposure, there are many ways that children respond to trauma. These responses can include, but are not limited to being emotionally upset, depression or anxiety, changes in behavior, issues with self-regulation, difficulty forming attachments, attention and academic difficulties, and manifestation of physical symptoms (Peterson, 2018).

In 2019, it was reported that approximately 26.4% of children in North Carolina had experienced at least one adverse childhood experience (ACE) and 15.3% had experienced at least 2 ACEs (Parks & Gitterman, 2022). However, with the COVID 19 pandemic, families were spending more time together as a result of stay-at-home orders (Decker et al., 2020) resulting in an increase in ACEs exposure (Parks & Gitterman, 2022). According to a North Carolina report (Parks & Gitterman, 2022) approximately four in 10 children experienced at least one ACE in 2022, with one in five children experienced two or more ACEs. There was also an increase of

children who experience two or more ACEs (17-20%) between 2016 and 2022, and a 3% increase of children who experienced three or more ACEs' between 2016 and 2022. The data also highlighted racial disparities among children. Black children were 1.7 times more likely than White and Hispanic children to experience two or more ACEs exposure. The implications of early childhood exposure to ACEs on development includes internalizing and externalizing problem behaviors, social issues, as well as play and attention problems (Liming & Grube, 2018). This can be a cause for concern if left unattended, especially as children are transitioning into new environments like school. The National Association for the Education of Young Children (NAEYC) states:

> Each and every child, birth through age 8, has the right to equitable learning opportunities—in centers, family childcare homes, or schools—that fully support their optimal development and learning across all domains and content areas. Children are born eager to learn; they take delight exploring their world and making connections. The degree to which early learning programs support children's delight and wonder in learning reflects the quality of that setting. Educators who engage in developmentally appropriate practice foster young children's joyful learning and maximize the opportunities for each and every child to achieve their full potential. (NAEYC, 2020, p. 5)

The NAEYC position statement emphasizes the right that children have to equitable learning that is conducive to a supporting learning environment. The learning environment is dependent on the skills, knowledge, and training which teachers are provided to meet the emotional and behavioral needs of each student (Kelly et al., 2024). For ECE teachers, being trained in trauma-informed care can equip them to better handle challenging behaviors as well as foster a positive

environment to support the emotional, and academic development of children (Mortensen & Barnett, 2016). Implementing a trauma-informed approach in early childhood can create an opportunity to foster a strong partnership between educators and families. Families may be able to engage in a collaborative process with educators, which can benefit both families and children. By addressing trauma early, ECE teachers can create a ripple effect that positively influences children, families, and educators. Hence, it is essential to equip NC Pre-K teachers with trauma-informed lens so they can provide young learners with the best schooling experience.

To be a lead teacher in North Carolina's state funded Pre-K program, teachers' must possess a bachelor's degree and have a state licensure in birth through kindergarten (BK) or be working towards having one (Hegde et al., 2022). Having these credentials demonstrate that educators have the necessary background knowledge to work with children from birth through age five. A study done in North Carolina by Clotfelter et al. (2011) found that board certified teachers, which is distinct from licensure, who had strong academic and teaching preparation, in addition to longer teaching experience, saw higher achievements in their students. These findings indicate how important it is for teachers to not only be qualified to teach but also possess the skills and experience that comes from long term teaching.

In addition to understanding how well-trained teachers can support students who experience poverty, we must also consider the support needed to address child poverty and insecurity in NC. In North Carolina, at least one in five children are food insecure and almost 10% of children are living in extreme poverty (Nichol & Hunt, 2021). Specifically in Eastern North Carolina, there is a higher prevalence of rural areas that are associated with poverty and lower employment rates with a report of 17.3% of children living below the federal poverty threshold (Hertz et al., 2023; Nichol & Hunt, 2021). With there being an increase in the

prevalence of children living in neighborhoods with higher poverty rates it is important to assess how this influences their development. The neighborhoods in which they live determine the schools they attend, the resources available within their communities, their sense of safety and security, and overall health and wellness. Schools located in areas of higher poverty face unique challenges such as having higher rates of new teachers, who may not yet have the skills and experiences of working alongside children in such communities (Nichol & Hunt, 2021). These schools are also faced with high teacher turnover rates, which creates further instability and continues a cycle of unprepared teachers instructing students with the greatest needs (Nichol & Hunt, 2021).

Since NC Pre-K teachers engage with some of the most vulnerable groups, including low-income and at-risk children, this makes them an excellent group to survey on a critical issue like trauma**.** A practical way of addressing this issue is to build on community resiliency, that includes training early childhood teachers with the hope that their learned skills can be passed along to other teachers, staff, and parents (Grabbe et al., 2023). The Community Resiliency Model (CRM) is a self-care technique that promotes well-being by helping individuals understand their sensory awareness and emotion regulation in response to stress and trauma (Grabbe et al., 2023). For teachers, CRM can be a valuable tool to recognize their own stress responses, providing insights into their students' trauma responses and enabling better support for student needs. However, there is not prior research from the specific population of NC Pre-K teachers to provide information on how to address this issue. To get an understanding of what support is needed to address the issue of poverty in Eastern NC and assist NC Pre-K teachers in implementing trauma-informed care, a baseline must be established. Thus, the main purpose of this study is to assess teachers' knowledge of trauma and trauma-informed practices, confidence

that teachers have in their actions to support students who have experienced trauma, and training received and required by NC Pre-K teachers on trauma-informed care.

CHAPTER 2: LITERATURE REVIEW

Adverse Childhood Experience and Impact in Early Childhood

Adverse childhood experiences (ACEs) were first looked at by Felitti et al. (1998) where they sought to examine whether ACEs exposure in early childhood would be related to negative health outcomes in adulthood. The researchers surveyed about 17,000 adults asking questions across different categories of negative childhood experiences such as abuse (psychological, physical, and sexual abuse) and household dysfunction (substance abuse, mental illness). Results from this study indicated that more than half of participants indicated they had experienced at least one adverse childhood experience. This study also revealed that ACEs exposure increased the likelihood of experiencing negative health outcomes in adulthood. This study laid the foundation for decades of research focusing on different outcomes related to ACEs exposure.

Research on Adverse Childhood Exposure (ACE) exposure in early childhood has revealed many associations between ACEs and academic outcomes, behavioral problems, and attendance issues. A longitudinal study conducted by Choi et al. (2019) studied the implications of early exposure to ACEs on behavioral problems of children ages three, five, nine, and 15 while controlling for the mothers SES status. The sample for this study consisted of (n=2750) children and parents from the Fragile Families and Child Wellbeing study. Children's exposure to ACEs were obtained from reports provided by both the mother and father at ages one through three. Findings from this study demonstrate that ACEs exposure in early childhood led to an increased risk for children exhibiting behavioral problems in the future.

Jimenez et al. (2016) examined the associations between experiences of ACE in early childhood and its impact on behavioral and academic problems of kindergarten students. A secondary data analysis was conducted using data from the Fragile Families and Child Wellbeing

Study (n=1007). Data was obtained from reports given by primary caregivers and teachers. Teachers were asked to provide reported outcomes on academic skills, classroom behavior, while ACE measures were obtained through maternal reports at 5 years. It is important to note that over half of the children in the sample identified as African American, which is a large demographic that makes up inner-city schools and often require additional resources. According to teacher reports, children with exposure to 1 ACE had attention problems and aggressive behaviors. The results indicated there is an association between childhood exposure to ACE and academic and behavioral problems. Specifically, the more exposure to ACEs there is, the more likely that the child has below-average academic skills, including literacy skills. In comparison to children with no ACE exposure, those with at least one exposure are at a higher risk for behavioral issues, and as exposure increases it can lead to academic issues and behavioral problems that can interfere with children's developmental trajectories.

A study conducted by Blodgett and Lanigan (2018) assessed the effects of ACE exposure on academic risk, behavioral and attendance problems in elementary school children utilizing educators as reporters. The sample of this study (n=2101) consisted of 10 randomly selected classrooms across four school districts. Student risk was measured using an adapted version of the original ACE survey, resulting in a 10-item questionnaire (Felitti et al., 1998). Academic status in this study consisted of academic failure, attendance concerns, as well as behavioral problems. Academic concerns were gathered from students' most recent report card, while attendance concerns and behavioral problems were collected from staff reporting on these issues. The results of this study show that ACE exposure was associated with higher rates of academic failure, attendance problems, and school behavioral problems. These results demonstrate the negative impact ACE exposure can have on students' ability to successfully navigate academic

space and engage in meaningful learning. This information informs teachers of the risks of ACE exposure on their students and urge them to take steps towards advocacy and implementation of services to best support student needs. Thus, the findings from this study indicate that educators can benefit from the knowledge and skills necessary to be equipped to support the developmental challenges associated with student exposure to ACE (Blodgett & Lanigan, 2018).

A study by McKelvey et al. (2018) examined the longitudinal impact of ACEs exposure in infancy and toddlerhood with academic and behavioral outcomes. Data collection primarily occurred within family homes, utilizing structured interviews, video observations of parent-child interactions, and assessments of child outcomes given by the researchers. This longitudinal study resulted in data being collected at ages 1, 2, 3, and 11 resulting in a sample (n=1632) for the Early Head Start Research and Evaluation Project. Measures of this study included adverse childhood experiences which included emotional abuse, physical abuse, sexual abuse, emotional neglect, physical neglect, parental separation, domestic violence, substance abuse, household mental illness, household incarceration, academic status, and adaptive behavior. Results indicate that there was an association between ACEs and school outcomes, whereby children exposed to three or more ACEs before the age of three are more likely to have an IEP. Exposure to ACEs also was associated with being retained in school. Additionally, the results show that ACEs are associated with children's behavior, in areas such as internalizing problems as well as attention issues. The findings from this study highlight the outcomes that children experience who have been exposed to ACEs from a young age. It demonstrates the least desirable outcomes that can occur, which can lead to damaging effects on a child's academic and behavioral outcomes. In the following section we discuss ways in which teachers may act as a buffer between students and ACEs.

Overall, these studies provide an in depth understanding of the different outcomes associated with early ACEs exposure. Specifically, ACEs exposure increases the likelihood of a child having behavioral and academic struggles, it puts them at risk for attendance issues, and it can negatively impact learning in an academic setting. Knowing the potential negative effects ACEs has on a child's outcome, it strengthens the need to equip teachers with the knowledge and skills to be aware of these outcomes. It also ensures that students are able to have their needs met so they can thrive and be successful in their environment.

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

It is important to discuss this study in the context of teacher student relationships and the importance they have in shaping children's development. Further, teacher student interactions are important for student development, however research suggests that the quality of those relationships vary across the country (Pianta et al., 2005). In one instance, Kuhfeld et al. (2019) found that children from low-income backgrounds and who identified as African American were likely to encounter fewer effective interactions in early childhood programming meaning that their socioeconomic status and racial identity played a role in how they were perceived and treated. To negate potential experiences like this from happening in the future, it is worth ensuring that ECE teachers are informed and trained to respond to the needs of all students. Thus, both teacher and student ethnicity are an important variable to be considered in a study where we examine teachers knowledge and confidence levels with trauma-informed care.

Research suggests that positive relationships built between students and teachers can potentially buffer the negative effects of ACEs experienced by children (Murphy & Sacks, 2019). This includes areas like student achievement (Hu et al., 2016), student motivation, and positive behavioral and social outcome (Wang et al., 2020). CLASS, which has been used to

study teacher-student interactions classified these interactions in the domains of Emotional Support, Classroom Organization, and Instructional Support (Hofkens et al., 2023). Within the domain of Emotional Support falls positive climate which reflects the student-teacher connection and teacher sensitivity. Teachers knowledgeable about trauma and how trauma manifests in student behaviors, equips them to respond appropriately to children's needs.

According to Wang et al. (2021) children spend much of their time in the school environment. In NC Pre-K, children can spend up to 6-1/2 hours in a regular school day with some programs offering extended day programs to accommodate the needs of the families (NC Pre-K for Parents, 2018; North Carolina Pre-K Program - Childcare Network, 2023). With children spending so much time at school, they tend to form many meaningful relationships with their peers and teachers. Not only do students learn and develop their socioemotional skills in this environment, but their teachers also often play a vital role in recognizing and addressing students' social and emotional needs. According to Murphy and Sacks (2019), the stable and supportive relationships built with their caregivers, including teachers, may act as a buffer to the effects of ACEs. There is additional research to suggest that positive school experiences may act as a protective factor against adversities and promote positive outcomes among children (Crouch et al., 2019).

A study conducted by Rebicova et al. (2021) assessed the effects of schoolmate and teacher support on the emotional and behavioral problems among adolescents with experiences of ACEs. Data for this study came from the Health and Behavior in School-aged Children study that was conducted in Slovakia in 2018. Measures included emotional and behavioral problems, adverse childhood experiences, schoolmate support and teacher support. Findings from this study indicate that while teacher support did not directly buffer the association of ACEs with emotional

behavioral problems, it did decrease the likelihood of students displaying emotional and behavioral problems. Hence there is some indication that teacher support decreases the chances of students engaging in behavioral and emotional distress. This finding demonstrates the impact teachers have on students healthy emotional development.

A cross-sectional study by Vinh et al. (2024) examined the role that parent, friend, and teacher relationships had in mediating the associations between ACEs and mental disorders in Vietnamese students. Participants in this study included students from 6th to 12th grade at a selected school (N=1275). Researchers found that the rate of depression among students was at 44.0%, the rate of anxiety was 35.6%, and the rate of stress was 30.6%. They also found that 19.7% experienced one mental disorder, 15.2% experienced two disorders, and 20.0% experiences three or more disorders. The results of the mediating effects of student-teacher relationships revealed a partial mediation. That is, student-teacher relationships accounted for 5.8% of the total effect, while the parent child relationship accounted for 15% and the friend relationship accounted for 4.4%. While researchers found a partial mediation with the student-teacher relationship, it demonstrates an important finding that teacher relationships may act as a buffer against effects of ACEs.

As it relates to ECE teachers, their role in early childhood development is one of great importance as their interactions with children directly impacts their social and emotional development in the classroom. They are tasked with both promoting the educational needs of their young students in addition to supporting their socioemotional development (Mortensen & Barnett, 2016). Research has shown that being in a healthy social and emotional environment is beneficial for the promotion of children's behavioral, emotional, and physical development (Ritblatt et al., 2017). Additional factors such as teachers' experience, and educational level

influence their ability to provide an environment that fosters positive socio-emotional learning (Clotfelter et al., 2011; Glock & Böhmer, 2018). Additionally, they may encounter students with other mental health needs as a response to trauma. For ECE teachers to be able to address the needs of their students effectively, they need to be knowledgeable about trauma, know about symptoms that children might manifest, and be knowledgeable about how to incorporate trauma-informed strategies to create a supportive environment (Bilbrey et al., 2022).

Teachers Age, Experience, and Ethnicity as it Relates to Trauma-informed Care

There is research to suggest that both teacher's age and experience seem to be important factors that influence how students are viewed through a trauma-informed lens. For instance, Glock and Böhmer (2018) found that teachers with less teaching experience (average of 12 weeks) had fewer negative attitudes towards ethnic minority students compared to teachers with more teaching experience (average of 15 years). Furthermore, teachers younger in age within the most experienced group of teachers were found to be least biased towards students from minority groups. These findings suggest that both teachers experience level and age, play a crucial role in how children from different backgrounds are perceived within the school system. Teachers younger in age are seemingly less biased (Conaway & Bethune, 2015). Thus, these are important factors to be considered within teacher sensitivity training when addressing student needs as it relates to trauma. Providing training as early as possible in an educators career could positively shape their attitudes towards students of all ethnic backgrounds.

A summary of research has shown the positive association between a teaching experience and student achievement (Kini & Podolsky, 2016), and so while it may be assumed that teacher experience could be important for effectively supporting students' needs in response to trauma, research indicates that there is no significant difference between novice and experienced teachers

(Graham et al., 2020; Stuhlman & Pianta, 2009). A search of literature looking specifically at the differences between novice and experienced teachers in their ability to support students who have experienced trauma in early childhood did not yield results, suggesting there is a gap in the literature examining these specific variables. Although trauma-informed care has been established in various fields, its application within the field of education is still relatively recent (Thomas et al., 2019) with it becoming more popular in 2020 amid the COVID-19 pandemic (Stewart, 2022). Since many care providers earned their degrees prior to that period, it's likely that they had fewer opportunities to participate in ongoing education about Trauma-Informed Care (TIC).

Lastly, the ethnicity of a teacher may impact the way in which they respond to student who belong to a different background than them. According to a 2023 report (Child Care Services Association, 2024) the demographic breakdown of ECE teachers was 49.4% White/Caucasian, 39.7% identified as being Black/African American, 1.6% Asian Pacific Islander, 3.1% American Indian/Native American, 7.4% Hispanic, and 2.0% Biracial. In recent decades, the mismatch between the demographic makeup of teachers on students outcomes has garnered much research attention (Gottfried & Fletcher, 2023; Hartbatkin, 2021; Lindsay & Hart, 2017). However, it seems that little research has examined the ways in which this disparity plays a role in providing trauma-informed care.

A study conducted with German teachers found that teachers who were a part of an ethnic minority group showed less bias towards children from ethnic minority group in comparison to teachers from a majority group (Glock & Kleen, 2019). Another study investigated how preservice teachers, with a Turkish or German background, were perceived by other teachers in terms of their biases towards students (Frühauf et al., 2024). In this study

teachers were asked to watch videos of a Turkish or German teacher instructing a student on a task while indicating that learning gains either varied (stereotype) or remained consistent (no stereotype) between immigrant and non-immigrant students. 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. These findings lead to our assumptions that there may be a difference in teachers' knowledge and confidence in trauma-informed care based on teachers' ethnic background and that of the children.

Impact of Trauma Informed Training and Implementation on Teachers

The increased exposure of childhood trauma and its negative implications on early childhood development has resulted in the need for trauma-informed training and school wide implementation. The growing body of literature demonstrates the positive effects of trauma-informed trainings on increasing teachers' knowledge and confidence, suggesting its effectiveness if implemented as a nationwide initiative.

Foundational professional development (FPD) training is a common way of introducing new system wide initiatives in schools. According to Cole et al. (2013) FPD trainings in trauma-informed care consists of providing knowledge, implications, and support for student exposure. Research has shown that FPD trainings can build upon the knowledge, understanding, and use of trauma-informed practices in different settings (Brown et al., 2012; Green et al., 2015). One study evaluated a two-day FPD with pre and post training measures on the enhancement of teacher knowledge and acceptance of trauma-informed practices. Participants of this study consisted of 210 primary and secondary teachers from six New Orleans public charter schools. Before training occurred, participants completed pretraining measures which was immediately followed by the completion of a two-day training. The training provided to the staff was

developed around the four key assumptions of trauma-informed systems provided by SAMHSA (2014). These fours assumptions are 1) having the realization about trauma and understanding its impact 2) recognizing the signs of trauma 3) responding by applying trauma-informed strategies and 4) avoiding re-traumatizing (SAMHSA, 2014). Results show that there was an increase in knowledge of trauma-informed practices from pretraining following the FPD training. The study also hypothesized that an increase in knowledge would also be associated with acceptability of a system's fit, which was supported by the findings. Meaning that as teachers learned more about trauma-informed approaches and understood its use and impact, they were likely to support its implementation.

UCSF Healthy Environments and Response to Trauma in Schools (HEARTS) sought to create and implement a program to create a safe and trauma-informed environment to address the needs of students in under-resourced and trauma-impacted neighborhoods (Dorado et al., 2016). HEARTS was implemented in each school at different times ranging from 1.5 to 5 consecutive years. Implementation occurred in schools located in San Francisco which primarily served a large African American, Latino, and Asian and Pacific Islander children. The information provided to teachers and staff through training focused on topics of understanding trauma and how it impacts student behaviors. There were additional trainings provided that addressed topics like burnout and experiences of trauma in the school system. Findings from this study indicated that there was a significant increase in knowledge about the understanding and use of trauma-informed practices amongst school staff. In terms of assessing, there were significant changes within student engagement levels, whereby students spent more time being on task, being in the classroom, and even an increase in attendance The results from this program implementation and

evaluation provides support for the implementation of trauma-informed practices in schools. There seems to be a significant impact on students, staff, and overall community.

Brown et al. (2022) assessed the knowledge, attitudes, and skills associated with working with students impacted by trauma. All participants were teacher candidates placed in K-12 settings. Participants (n=180) were enrolled at an urban Midwestern public university. Before participating in the 3.5-hour trauma training, participants were asked to complete the pre-training survey two weeks prior. Within the training session, participants were provided with information on trauma, ACEs, and need for trauma-informed practices in schools. Additionally, participants were provided with the option to attend two separate breakout sessions of their choice, which targeted other aspects of trauma. After completing the posttest surveys, participants identified ways in which they would feel more knowledgeable and prepared to help students who experienced trauma. This included additional resources, increased knowledge on trauma, response strategies, and role clarity. For participants who mentioned needing more resources, they referred to wanting to know when, who and how to refer students and collaborate with other mental health agencies to support their needs. Other participants also mentioned wanting to know how to recognize the signs and symptoms of trauma, while others wanted to know specific strategies, they could implement to support behaviors stemming from trauma responses.

Lastly, Bilbrey et al. (2022) conducted a quantitative study investigating early educators' perspectives of their knowledge, training, and future interest related to trauma-informed practices in PreK through third grade classrooms. Researchers measured how much knowledge teachers had about the impact of trauma on students emotions, behaviors, and their ability to learn, and the results showed that 70-77% of participants reported being knowledgeable on these topics. There were also reports that 50-60% of participants were knowledgeable about different types of

traumas, how it impacts student learning, and how to identify when students are displaying symptoms because of trauma. When asked if they were comfortable using trauma-informed strategies, 74-86% of participants responded that they were confident. Additionally, when asked if they would be interested in receiving training on effective classroom strategies to support students with exposure to trauma, 91% indicated that they were interested. These findings suggest that while knowledge on the impact of trauma is important for teachers to acquire, they also need to know how to apply this knowledge into their own practice. Thus, the literature on trauma-informed training and implementation highlights effectiveness of these programs and impact it has on increasing the knowledge of trauma-informed practices. Additionally, it illustrates teachers interest in wanting to receive further training on the topic.

In summary, as ACEs exposure continue to rise in North Carolina it can have detrimental impact on a child's wellbeing. Decades of research has informed us of the negative outcomes associated with ACEs. However, research shows that teachers may be able to act as a buffer against negative outcomes with positive student teacher relationships. To ensure that teachers are equipped to meet the needs of students who have experienced trauma while nurturing their social, emotional, behavioral and academic development, they must be trained to do so.

CHAPTER 3: THEORETICAL FRAMEWORK

Bronfenbrenner's Ecological Systems theory, which provides a comprehensive understanding of the interactions that occur between teachers and students as it relates to the use of a trauma-informed approach is explained in greater detail. According to Bronfenbrenner (1977), a child's development is influenced by the interactions of multiple systems which includes parental interactions, teacher interactions, and the school environment.

In the microsystem, student development is directly impacted by their immediate surroundings, which includes exposure to trauma at home. Exposure to trauma may lead to internalizing and externalizing problem behaviors in the classroom, which can have a negative impact on student-teacher and peer relationships. Research has indicated that positive daily interactions between teachers and students are important as it is indicative of the quality of education a child receives, and how it impacts their social and emotional development (Ansari & Pianta, 2018).

The mesosystem is made up of the different interactions and connections that have occurred between microsystems. This includes interactions that are happening between family members and teachers. For parents and teachers this may include having a solid working relationship that is rooted in providing quality support both at home and school to foster the development of the child. For instance, teachers supporting families and sharing strategies on how to help a child who is exposed to trauma, can be very beneficial.

Additionally, the exosystem and macrosystem is also known to impact the development of children. Schools investing and supporting teachers to be trained in trauma-informed practices and having a school policy that believes in executing trauma-informed care for ALL children can be very beneficial. Thus, the factors such as teacher training and policy may not directly involve

children, but having trained teachers in a supportive school can influence children and their wellbeing.

Lastly, the chronosystem consists of historical and environmental events during a child's lifetime that can impact their development. The recent COVID-19 pandemic is an example of an historical event that has impacted many areas of development. According to Zahedivash et al. (2023) the pandemic intensified pre-existing inequalities that were already prevalent in the educational environment. During this time, there was decline in the national enrollment in the number of children receiving Early Start or Early Child Special Education services (Friedman-Krauss & Bernett, 2023). Research has shown that children who did not attend preschool during the pandemic have worse language and executive functioning skills compared to children who did attend (Davies et al., 2021). Additionally, not being enrolled in preschool may have negative impact on school readiness and academic outcomes, which can result in developmental delays (Bettencourt et al., 2018). In the end, this theory provides the necessary framework to be able to understand how teachers knowledge and skills of trauma-informed practices can positively influence the school environment in which the child is in direct contact.

Purpose of Study

Since NC Pre-K teachers engage with some of the most vulnerable groups, including low-income and at-risk children, this makes them an excellent group to be surveyed on a critical issue like trauma**.** No prior studies have studied this specific population of teachers addressing this research topic. To understand what support is needed to address the issue of poverty in Eastern NC and assist NC Pre-K teachers in implementing trauma- informed care, a baseline must be established. Thus, the purpose of this study is to obtain an understanding of the attitudes, knowledge, and confidence that NC Pre-K teachers have in trauma-informed care.

Thus, the purpose of this study is to assess NC Pre-K teachers knowledge regarding trauma, the confidence in actions they have when working with children of trauma and the training they have received and want more on this topic.

The following research questions will guide 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?
        I. Hypothesis: Teachers' age and experience level will correlate with their knowledge on trauma-informed care.
    b. Does teachers' knowledge on TIC differ based on their ethnicity?
        II. Hypothesis: Teachers' knowledge on TIC will differ based on teachers' 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?
        III. Hypothesis: Teachers' age and experience level will correlate with their confidence levels.
    d. Does teachers' confidence differ based on their ethnicity?
        IV. Hypothesis: Teachers' confidence levels will differ based on teachers' ethnicity
3. 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 teacher who have experience working with children of trauma versus teachers who have no experience working with children of trauma?

V. Hypothesis: Teachers' knowledge and confidence scores on TIC will differ for teacher with experience on working with children of trauma versus teachers who have no experience working with children of trauma.

4. What training have NC Pre-K teachers received and want more on trauma-informed care?

CHAPTER 4: METHODS

This chapter provides an overview of the study design, participants, data collection procedure, measure, data management, and data analyses plan. A copy of the tool is attached to Appendix B.

Design

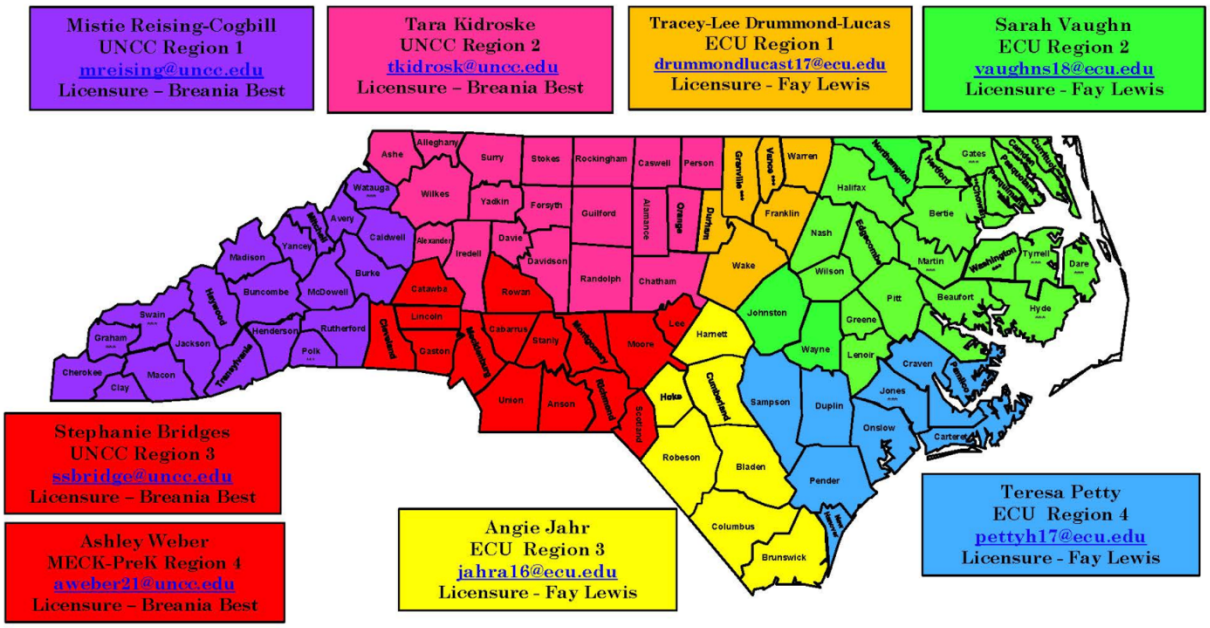
This was an exploratory study that utilized a standardized survey to assess NC Pre-K teachers' knowledge regarding TIC, their confidence in actions they have when working with traumatized children, their prior experience as it relates to working with children who have experienced trauma and the training they have received and want on this topic. To our knowledge, this topic has not been studied within literature with this specific population of teachers. Thus, exploratory research design was a perfect fit, as it gave the researchers the flexibility to examine topics which were not previously investigated and needed further exploration (Swedberg, 2020**).**

Participants

Eligible participants for this study were lead NC Pre-K teachers throughout Eastern North Carolina, specifically those 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. Lead NC Pre-K teachers at nonpublic school locations are provided coaching, professional development, and licensure support across eight regions split between two hubs, one in the eastern and western portions of the state (NCDHHS, n.d.). The EES program at East Carolina University provides support and mentorship to four regions across Eastern North Carolina, with Figure 1 illustrating the various regions.

Figure 1

Map of Region Divisions for the Early Educator Support Office



A purposive sampling technique was employed to recruit and survey NC Pre-K teachers, with an estimated sample size of 40-45 participants. Purposive sampling involved the selection of participants based on professional judgement of representative characteristics regarding the study's aims (Greenstein & Davis, 2013). As NC Pre-K teachers work with students experiencing poverty, teachers understanding of trauma and trauma-informed practices becomes very critical. NC Pre-K teachers work with the most vulnerable population in terms of demographics (low-income, at-risk children) and age (for many children preschool is their first experience to schooling out of home), thus making them an ideal group to be surveyed on an important topic such as trauma. Additionally, as the University EES hub primarily mentors and evaluates NC Pre-K teachers in the eastern region of NC and can access these teachers readily, we partnered with them to distribute the surveys. To recruit participants, the EES coordinator

was emailed to request assistance in sending out the initial email invite to NC Pre-K teachers. In the email sent out to teachers the details of the study and the link to the survey was attached.

Procedure for Data Collection

The survey was administered utilizing the survey software, Qualtrics, which is a web-based tool used by the researcher's university. This data collection method allowed for a larger reach with teachers spread out amongst Eastern North Carolina. At the beginning of the survey, participants were required to read through the consent form and agree to participate. Those who declined were directed to a screen at the end of the survey thanking them for their time and interest.

The survey tool was made available for participants through a link that was emailed by the EES coordinator on December 16th, with a reminder emailed sent on January 8th. The first email elicited 51 responses, and then there was an increase to 80 responses following the reminder email. Participants were informed that the survey would take 15-20 minutes to complete. Additionally, they were informed that participation was completely voluntary and those who participated would have a chance to enter into a random drawing to receive one of the 10 $10 gift cards.

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 aggregated form. Additionally, to maintain anonymity the drawing for a $10 gift card was directed to a separate Qualtrics survey where the participants could input their name, email and mailing address. These responses were separate from the main survey responses.

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, α = .948); Confidence in Providing Trauma-Informed Strategies (n=13, α=.940); and Confidence in Creating Supportive Relationships (n=4, α=.865). The Cronbach's alpha acquired within the current study were strong as well; Knowledge of Trauma (n = 11, α = .944); Confidence in Providing Trauma-Informed Strategies (n=13, α=.945).

Description of the Survey and Subscales:

There were 6 sections in this survey. The first section 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 knowledge section was measured on a Likert scale ranging from "1" not at all knowledgeable to "5" very knowledgeable. This section encompassed questions that asked participants on their understanding of how trauma impacts students social and emotional development, as well as teachers ability to recognize trauma. Example, one question reads as "I am knowledgeable about the impact trauma can have on a student's social success".

The second section had thirteen questions, that asked how confident participants were about a variety of actions related to trauma-informed care. One question read as "I can interact with students who have faced trauma in ways that have positive impacts on their ability to learn" while another stated, "I can de-escalate and manage student behaviors when necessary." 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 asked about participants experience working with children who have been traumatized. These questions are (1) are you currently, or have you ever, worked with a student who has experienced trauma? (2) throughout your career as a teacher, approximately what percentage of your students have experienced childhood trauma? (3) approximately what percentage of your students that you currently teach have experienced trauma?

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. An example of the questions asked were, "how much training did you received about childhood trauma when you were working on obtaining your degree?" Responses to this question included none at all, a little, a moderate amount, a lot, and a great deal. Additionally, participants were asked "how many trainings have you attended about trauma in the last 3 years?" followed by the question "in the training events you attended, which of the topics below were discussed?" to which participants select from a list of topics provided.

The fifth section consisted of eight questions, that asked information regarding participants work. These questions included "how many years have you been employed as a teacher?" and "which of the following describes your role in the classroom?" to which participants chose from a list of choices ranging from Pre-K teacher to Specialist.

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

This study is a quantitative study, which utilized Likert scales. Thus, for quantitative data both descriptive and parametric statistics were employed. Mean, standard deviation, and frequency were used to describe demographic data and describe overall scores on the different subscales (e.g. knowledge, confidence in action). Pearson's correlations were utilized to examine the relationships between ratio level variables (e.g. age, experience level and scores on the subscales), while one-way ANOVA were used to compare subscale means on teacher knowledge and confidence level in actions across teachers 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. Information regarding the statistical test used for each research question is provided in Appendix C.

CHAPTER 5: RESULTS

Quantitative analyses were utilized to examine NC Pre-K teachers' knowledge, confidence, and training received and wanted regarding trauma-informed care. This chapter consists of a description of both the demographic data and findings from the descriptive and inferential analyses. The data presented in this section follows the research questions asked within the study.

Demographic Information

NC Pre-K teachers based in the Eastern North Carolina region associated with the EES hub comprised as the participants in this study. The survey was sent out to over 200 teachers, with a total of 81 individuals responding. Thus, the return rate was 40 percent. Thirteen participants were removed because they did not consent to participate in the study, resulting in 68 responses.

Close of 65 complete responses were recorded within the dataset. However, 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 data was missing completely at random, and the researcher could go in for a mean imputation. Thus, after a mean imputation for the scale, we had 68 complete responses from the participants.

All the respondents were female (n=68), with almost half (48%) identifying as White/Caucasian, followed by Black/African American (40%), Hispanic/Latino(a) (6%), Native American (3%), and Biracial (3%). Most teachers (35%) had a 4-year degree in education, followed by a graduate degree (24.6%), with a majority of teachers having a Birth to Kindergarten (BK) license (77%) (See Table 1)

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 priced 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' ages ranged between 24 and 64 years with the teacher's average age being 44 years. With reference to teachers' experience working with students who experienced trauma, 82% of participants responded that they are currently working with or have worked with students

who experienced trauma. Participants who worked as Pre-K teachers accounted for 95% of the sample, while others (5%) specified that they served primarily as Pre-K special education teachers. Most participants indicated they had a 4-year education degree (35.4%), followed by a graduate degree (24.6%), a 4-year EC/CD degree (18.5%), a 4-year degree in a related field (15.4%), some graduate work (4.6%), and a 4-year degree in other field (1.5%). When asked to specify type of degree in a related field participants indicated degrees in Birth to Kindergarten (3%), early childhood education (3%), family and child development (1.5%) and psychology (1.5%).

Licensure status for teachers were residency license (33.8%), Initial (SPI) (7.4%), Continuing (SPII) (52.9%), and Other (2.9%). Licensure types that teachers currently possess included birth to kindergarten (76.9%), B-K add-on (9.2%), Pre-K add-on (1.5%), elementary (1.5%), other (6.2%), and no licensure (4.6%). Other specified, additional licensure types included administration 1 and 2 and Pre-K add-on (1.5%), B-K residence license (1.5%), elementary education with B-K add-on (1.5%), and K-6 elementary, Pre-K kindergarten add-on, English as second language (1.5%).

Teachers' Knowledge about Trauma

The first section of the survey and 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 to 5.00. Indicating participant responses ranged between very little knowledge to very knowledgeable on the topic of trauma (see Table 2).

Table 2

Knowledge on the Topic of Trauma-Informed Care

	M	***SD***
I am knowledgeable about the symptoms traumatized students display	3.46	.89
I am knowledgeable about the impact trauma can have on the student's social success	3.78	.81
I am knowledgeable about the impact trauma can have on a student's behavior	3.93	.95
I am knowledgeable about the impact trauma has on a student's ability to learn	3.87	.86
I am knowledgeable about the impact of positive and negative emotional states on neurological/brain functioning and learning potential	3.68	.87
I am knowledgeable about different types of trauma	3.57	.87
I understand that symptoms of trauma may be similar or identical to the symptoms of other disability diagnoses	3.40	1.01
I am knowledgeable about the steps to take if I suspect a student is or has experienced trauma	3.32	.91
I am knowledgeable about the steps to take once a student has been identified as experiencing a traumatic event	3.28	.98
I am knowledgeable about how my behavior/interaction impacts students who may have experienced trauma	3.76	.90
I am knowledgeable about community resources that are available to families who may have experienced trauma	3.15	.98
Overall Scale Mean Score	3.56	0.73

Upon close examination of individual items, teachers had the lowest observed means on their knowledge about the availability of community resources for families who may have experienced trauma (3.15). Two other lower observed means included knowledge about steps to take once a student has been identified as experiencing a traumatic event (3.28) and knowledge about steps to take if a student is suspected of experiencing trauma (3.32). While the highest observed mean was on the knowledge teachers' had about the impact trauma can have on a student's behavior (3.93). This indicated that teachers' are knowledgeable about the impact of

trauma and the ways it can manifest in students behaviors, however it seems that there is limited knowledge on what to do to support those students and families.

Teachers' Confidence in Providing Trauma-Informed Strategies

The second section of the survey and second research question addressed *how confident are NC Pre-K teachers in their actions while working with students of trauma*. To examine teachers' confidence in taking action, mean composite scores were calculated from the 13 questions in the PECE-TKR scale. The overall means on the confidence in taking action sub-scale ranged between 2.08 to 5.00. Indicating participant responses ranged between slightly confident to very confident (see Table 2).

Upon close examination of individual items, teachers had lower observed means on their confidence in taking appropriate steps if they suspected a student has experienced trauma (3.53), taking steps to support a student who experienced a traumatic event (3.59) and making observations to identify signs of trauma (3.59). The highest observed mean score was that teachers' felt confident in their ability to be positive with all their students (4.31). These results indicated that teachers' did not feel as confident in taking the appropriate steps to support students who have or are currently experiencing trauma, as well as identifying signs of trauma through observations.

Table 3

Confidence in Taking Action

	M	***SD***
I can make behavioral observations when interacting with students that will help me identify signs of trauma	3.59	.97
I can de-escalate and manage student behaviors when necessary	3.75	.85
I can interact with students who have faced trauma in ways that have positive impacts on their ability to learn	3.75	.87
I can take appropriate steps if I suspect a student is or has experienced trauma	3.53	1.0
I can take steps to support a student who has been identified as experiencing a traumatic event	3.59	1.03
I can utilize strategies with the intent to create a safe environment for students	3.84	.86
I am self-aware and mindful of my interactions with students	4.12	.66
I can use active listening strategies when interacting with students	4.16	.68
I can assist traumatized students so that they can learn	3.69	.84
I can mediate when students pick on each other	4.15	.74
I can be positive with all my students	4.31	.72
Overall Scale Score	3.92	0.64

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 ($r=.732$, $p<.01$) indicating that teachers' higher knowledge scores were associated with their higher confidence scores. Thus, teachers' more knowledgeable in TIC exhibit more confidence in their actions with students who have experienced trauma.

However, teachers' age and knowledge on TIC ($r = 0.09$, n.s.) and teachers' experience level and knowledge on TIC ($r=-0.20$, n.s.) did not correlate significantly. Similarly, teachers' confidence in action with students and their age ($r= - 0.16$, n.s.) and teachers' confidence in action with students and their experience level ($r= -0.157$, n.s.) did not significantly correlate with each other.

Table 4

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

We further explored if teachers differ in their knowledge level across the four ethnic groups; White/Caucasian (M = 3.54, SD = 0.89), Black/African American (M = 3.47, SD = 0.79), Hispanic/Latino = (M = 3.97, SD = 0.80), Native American (M = 2.95, SD = 0.96) and Biracial = (M = 3.86, SD = 0.19). One way ANOVA results were not significant F (4, 60) = 0.797, p = 0.53)

Similarly, we investigated if teachers confidence in their actions differs across the four ethnic groups; White/Caucasian (M = 3.94, SD = 0.61), Black/African American (M = 3.87, SD = 0.74), Hispanic/Latino = (M = 4.07, SD = 0.53), Native American (M = 3.65, SD = 1.03) and Biracial = (M = 4.07, SD = 0.10). One way ANOVA results were not significant F (4, 60) = 0.203, p = 0.93).

Thus, teachers' knowledge level and confidence in action did not differ across teachers with varying ethnicities.

Table 5

Means, standard deviations, and one-way analyses 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	1.76	4	.44	.797	.532
	Black/African	3.48	.79	groups					
	American	3.98	.81						
	Hispanic/Latino(a)	2.95	.96	Within	33.05	60	.55		
	Native American	3.86	.19	groups					
	Biracial								
Confidence	White/Caucasian	3.94	.61	Between	.36	4	.09	.203	.936
	Black/African	3.87	.74	groups					
	American	4.08	.54						
	Hispanic/Latino(a)	3.65	1.03	Within	26.89	60	.45		
	Native American	4.08	.11	groups					
	Biracial								

Teachers' Experience Working with Children Who Have Experienced Trauma

The third research question and third section of the survey addressed teachers experience in working with students who have experienced trauma. When asked the question, "Are you currently, or have you ever, worked with a student who has experienced trauma?' The majority (82.4%) of the participants responded with a YES and 17.6% responded with a NO.

We further investigated if teachers who have worked with students of trauma differ from teachers who have not worked with students of trauma on both in their knowledge and confidence scores. The One-way ANOVA results were highly significant for teacher knowledge scores ($F(1, 66) = 4.880$, $p<.031$) and teacher confidence scores ($F(1, 66) = 7.403$, $p<.008$). Indicating that teachers who have experience with children of trauma are more knowledgeable on TIC and also more confident in their actions as they work with students of trauma, compared to teachers with no experience.

Table 6

Means and one-way analyses of differences between teachers who have experience in the field and teachers with no experience in the field

	Teacher with field experience		Teacher with no field experience							
Measure	*n*	M	*n*	M		Sum of Squares	*df*	Mean Square	*F*	*p*
Knowledge	56	3.65	12	3.15	Between groups	2.47	1	2.47	4.88	.03
					Within groups	33.41	66	.51		
Confidence	56	4.02	12	3.49	Between groups	2.77	1	2.77	7.40	.01
					Within groups	24.73	66	.38		

Further examination revealed that most teachers (17.6%) indicated that 1-5% of their students have experienced childhood trauma, followed by 16.2% responded that 6-10% of their students have experienced childhood trauma, and 13.2% indicated that 11-20% of their students experienced trauma. Furthermore, 1.5% of teachers indicated that between 71-100% of their students have experienced childhood trauma (See Table 4).

When asked the question, “Approximately what percentage of your students that you currently teach have experienced trauma?’ the two highest percentages were 1-5% of the students (17.6%) and 6-10% of the students (16.2%) had experienced trauma throughout their career as a teacher (See Table 4). A similar response within the same category was received when teachers were asked currently what percentage of their students had experienced trauma; 1-5% (17.6%) and 6-10% (16.2%), respectively (See Table 5).

Table 7

Percentage of Students who have Experienced Childhood Trauma Throughout Teachers' Career

	F	***%***
Unknow	9	13.2
0%	3	4.4
1-5%	12	17.6
6-10%	11	16.2
11-20%	9	13.2
21-30%	4	5.9
31-40%	4	5.9
41-50%	4	5.9
51-60%	7	10.3
61-70%	2	2.9
71-80%	1	1.5
81-90%	1	1.5
91-100%	1	1.5

Table 8

Percentage of Current Students who have Experienced Childhood Trauma

	F	***%***
Unknow	10	14.7
0%	6	8.8
1-5%	27	39.7
6-10%	12	17.6
11-20%	3	4.4
21-30%	4	5.9
31-40%	2	2.9
41-50%	2	2.9
61-70%	1	1.5
91-100%	1	1.5

Training Received and Wanted on Trauma Informed Care

The fourth research question in this study examined the amount of trauma-informed training that was received and wanted by the teachers. Participants were asked about the frequency in which they attended training within the last three years 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 that were discussed in the trainings attended by most participants were topics such as; what is early childhood trauma, the impact of trauma in early childhood years, causes of early

childhood trauma, and impact of early trauma in childhood years. Topics that were discussed the least in training 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 (See Table 8).

Out of the teachers that expressed their interest in wanting more training, 60.3% indicated an interest in learning about self-care strategies for working with children who have experienced trauma. This was followed by 60.3% who want to learn more about available resources for families and children affected by trauma. Others indicated they wanted to learn about effective classroom strategies (54.4%), how to support parents (51.5%), what to do if a child is suspected to have experienced trauma (51.5%) and how to determine if a child has experienced trauma (45.6%). Twenty-three participants indicated they wanted to learn about the impact of trauma in the early childhood years and how trauma impacts behavior in the classroom (33.8%), what causes childhood trauma (22.1%), and what is childhood trauma (20.6%). Lastly, half of participants (50%) preferred to receive a combination of training on-line and in-person, followed by 36.8% preferring on-line training only, and 7.4% preferring in-person training only.

Table 9

Responses to survey items "In the training events you attended, which of the topics below were discussed?" and "If you are interested in more training, what topics are you interested in learning about?"

Topic of training event	Events Attended		Events Interested in Attending	
	n	%	*n*	%
What is early childhood trauma	47	69	14	21
What causes early childhood trauma	44	65	15	22
How trauma impacts the behavior of children in early childhood classrooms	37	54	23	34
How trauma impacts learning in the early childhood years	36	53	23	34
What to do if you suspect a child has experienced trauma	30	44	35	52
Effective classroom strategies for supporting children who have experienced trauma	31	46	37	54
How to determine if a child has experienced trauma	23	34	31	46
Self-care strategies for teachers who work with children who have experienced trauma	22	32	41	60
Resources available in your community for children and families dealing with trauma	20	29	41	60
How to support parents of children who have experienced trauma	19	28	35	52

Percentages are rounded.

CHAPTER 6: DISCUSSION

The focus of this current study was to examine the knowledge, confidence, and training needs of NC Pre-K teachers as it relates to trauma-informed care. This study expands upon previous studies conducted which assessed teachers' knowledge, confidence, and training needs in trauma-informed care across different regions (Bilbrey et al., 2022). However, that study focused on elementary teachers who taught children between kindergarten and 3rd grade. Nonetheless, this study primarily focused on NC Pre-K teachers due to their role in early childhood education and their close proximity in working with students/children who have experienced trauma.

The first research question aimed to examine how knowledgeable NC Pre-K teachers were about trauma-informed care. A large percentage of teachers indicated that they were knowledgeable about the ways trauma can impact student behaviors and their ability to learn. Teachers also indicated that they were knowledgeable on how their own behaviors may impact students who experienced trauma. Similar to findings reported from other studies, teachers reported they lacked the knowledge of what steps to take if they suspected a student had experienced trauma, or if a student is confirmed to be experiencing trauma (Alisic et al., 2012; Bilbrey et al., 2022). Additionally, teachers reported that they lacked the knowledge of available community resources to support families who have experienced trauma, which were similar to the findings of other studies (Alisic et al., 2012; Bilbrey et al., 2022). In a study that assessed knowledge and skills associated with working with students impacted by trauma, K-12 teachers indicated that they wanted to learn how to recognize signs and symptoms of trauma, who to refer students to for additional support, as well as specific strategies to support behavioral responses stemming from trauma (Brown et al., 2022).

The second research question examined how confident NC Pre-K teachers felt about their actions with students who experienced trauma. An area in which most teachers felt the most confident in their actions was in their ability to be positive with their students. Teachers strive to create positive environments for their students, which often reflects their philosophy as an educator, making it likely that most teachers would feel confident in this area. However, most teachers reported feeling not at all confident to somewhat confident in making behavioral observations of their students or children that can help them identify trauma, take steps if they suspect a student is experiencing trauma, and take steps to support students who have experienced trauma. In these three areas teachers indicated a lack of confidence. These are skills-based areas which can be mostly acquired through trauma-informed trainings. Thus, these findings suggest that teachers overall struggle with providing *actionable support* to students who have experienced trauma which is similar to what Alisic (2012) found in their own study with elementary school teachers. Upon further investigation into the knowledge and confidence subscales in the survey, the researcher noticed that there were two individuals items across the knowledge and confidence subscale that has a low mean score among participants. On the item that asked if participants were knowledgeable about the steps to take if I suspect a student is or has experienced trauma, the mean knowledge score was 3.28 and on that same item when asked how confident they were in taking the steps if a student is suspected of experiencing trauma, the mean confidence score was 3.53. The second item asked how knowledgeable participants were about the steps to take once a student has been identified as experiencing a traumatic event, which had a mean score of 3.28, and when asked how confident they were taking steps to support a student who had been identified as experiencing trauma, the mean score was 3.59. It is important to note that these were the lowest scores for individual items on the knowledge and

confidence subscale. These low scores on the same items across subscales indicates the correlation that exists between teachers knowledge on trauma and ways to support students and their confidence in being able to carry out that support.

The correlations conducted on knowledge and confidence level revealed a significant and strong positive relationship between teachers' knowledge and confidence. Indicating that the more knowledge a teacher had in trauma-informed care, the more confident they felt in their actions with students who experienced trauma. The role that teachers play in creating a trauma-informed environment is crucial and requires support in the form of training to best meet the socioemotional needs of students (Russell et al., 2024). Positive student teacher interactions have been associated with a decrease in emotional and behavioral distress in students with ACEs exposure (Rebicova et al., 2021). So, the implementation of trauma-informed strategies amongst teachers can lead to an increase in knowledge and skills that can allow them to confidently identify and support students experiencing trauma. Studies that have implemented trauma-informed trainings within a professional setting has shown that they can be effective in increasing teachers' knowledge and confidence in trauma (Cole et al., 2013; Dorado et al., 2016).

Research questions 1a and 2a examined if teachers age and experience levels would correlate with their knowledge and confidence levels. While we did hypothesize that teachers' age would positively correlate with their knowledge and confidence levels, results were not significant. Findings of this study differed from other studies that found age may impact knowledge levels. Teachers who were younger may be less biased in working with students who experienced trauma (Conaway & Bethune, 2015). A factor that I believe could have contributed to the outcome where there were no differences found between a teachers age, knowledge, and confidence levels is the culture of self-directed learning that comes with working with students

who have differing needs that may not have been covered in their educational programming or during their licensure. To ensure their students are getting the support they need, teachers may seek out additional education or certification to fill the gaps in their learning. An additional factor that I believe may have contributed to there not being a difference between age, knowledge, and confidence level has to do with a teachers own experience with trauma. While not everyone may have direct experience with trauma, those personal experiences regardless of age may shape their knowledge and understanding of trauma. Lastly, I believe that the large focus on mentorship and collaboration that is encouraged in schools between experienced and novice teachers may influence the knowledge and experiences shared amongst teachers. The collaboration that occurs can be resourceful in providing knowledge about trauma and the ways it manifests and the different ways it can be addressed.

We also hypothesized that teachers experience level would correlate with higher knowledge and confidence levels, these findings were not significant as well. This aligns with previous research (Graham et al., 2020; Stuhlman & Pianta, 2009) that showed experienced or beginning teachers do not differ in their ability to support student needs in response to trauma.

Research questions 1b and 2b examined if there was a difference between teachers' knowledge and confidence across four ethnic groups: White/Caucasian, Black/African American, Hispanic/Latino, and Biracial. The ethnic breakdown of ECE teachers in a 2023 report was 49.4% White/Caucasian, 39.7% Black/African American, 1.6% Asian Pacific Islander, 7.4% Hispanic, 3.1% American Indian, and 2.0% Biracial (Child Care Services Association, 2024). With these statistics in mind, we hypothesized that there would be a difference in teachers' knowledge and confidence in trauma-informed care based on teacher's ethnic background. Previous research on teachers working in ethnically diverse settings, similar

to that of ECE teachers, found that teachers who belonged to an ethnically minority group were less biased to ethnically minority students compared to teachers from a majority group (Glock & Kleen, 2019). However, for both knowledge and confidence levels, one way ANOVA results were not significant indicating that teachers' knowledge and confidence in action did not differ across ethnicities. As a researcher, I think that the differences that were not found between teachers ethnicity and their confidence and knowledge levels could potentially be attributed to the cultural shift and awareness that was happening in 2020, where there were a lot of movement on cultural inclusivity training. With this big shift, a lot more people had access to information and training regardless of ethnic identities and cultural backgrounds. So, the assumption may be that because teachers had access to more knowledge and information on trainings that addressed trauma in a school context, their ethnic backgrounds do not dictate their ability to be culturally aware and responsive.

The third research question was used to determine what experiences NC Pre-K teachers had working with children who have experienced trauma. Majority of teachers responded YES, indicating that they had or currently have worked with students who experienced trauma. Additionally, we further examined if there were any differences in knowledge and confidence scores for teachers who have experienced working with children of trauma compared to teachers who have not worked with children of trauma. The ANOVA results were highly significant for both teacher knowledge and confidence scores demonstrating that teachers who have worked with children with trauma are more knowledgeable and confident in their action as they work with students. A possible explanation for these findings could be that teachers with experience working with children who have experienced trauma assume that they are more knowledgeable when they may not actually be more knowledgeable. It also worth considering that teachers who

work with a lot of children who experience trauma may be more motivated to pursue additional trainings to better assist children and their families, which is why they are more knowledgeable. Those with experience in this area are generally more equipped to handle challenging situations compared to those without such experience. Therefore, to enhance teachers' preparedness, knowledge, and confidence, implementing evidence-based trauma-informed curricula and training at the preschool level may be essential.

The last research question assessed the type of training received by teachers and future trainings wanted in trauma-informed care. Most teachers received training on early childhood trauma, impact of trauma in early childhood, and causes of early childhood trauma. Most teachers expressed that they would like to further learn about self-care strategies for themselves, resources to support students and families, effective classroom strategies, steps to take if they suspect a child has experienced trauma, and how to determine if a child has experienced trauma. Similar to findings from other studies (Alisic, 2012; Bilbrey et al., 2022; Brown et al., 2022) teachers are seeking to gain knowledge and practical, specific strategies to effectively support students and families affected by trauma. A study implemented a trauma-informed program across multiple schools in the San Francisco area that focused on providing training in topics of understanding trauma and its impact of behavior, in addition to addressing burnout and trauma in the school system. Researchers observed a significant increase in knowledge and understanding of trauma and trauma-informed practices amongst the teachers who participated in the program (Dorado et al., 2016). In another study, Parker et al. (2019) implemented a trauma-informed training through the “Compassionate Schools” initiative. Participants attended a training session for either half day or 3 days followed by an assessment of their beliefs about the need for trauma-informed implementation and training. The researchers reported that majority of participants had

changes in their mindsets (86%) and behaviors (76%) after attending the session. These two studies highlight the potential changes to knowledge and behaviors that can result from the implementation of trauma-informed trainings, which can further support students, their families, and communities alike who have experienced trauma.

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.

However, the study was limited in 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 within the field of early childhood. It is also important that future researchers consider that for one of variable studied (teachers with experience working with children of trauma and not) the study had unequal group sizes.

Another limitation of this study was the type of measurement tool used, which relied on self-reporting data. It is worth considering that participants may have evaluated themselves in a more positive light, which could have impacted the data. Since this was a quantitative study which utilized a standardized survey, researchers were limited in how responses were collected. Most were Likert scale questions or questions with drop down choices, with 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.

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. The insights gained regarding further training needs can enable professionals to tailor their training programs to address the key topics highlighted by teachers.

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. One of these areas include understanding and utilizing community resources for children and families. There are many organizations that already exist within Eastern NC that focus on building resiliency in communities and schools, such as the NC Center for Resilience and Learning, The NC Trauma-Informed Communities (TIC) Project, Handle With Care NC, and Rural Opportunity Institute. These organizations focus on community-based solutions in partnership with schools, first responders, and mental health professionals to offer support that include trauma-informed trainings. Since the work is already being done in the community, it is important that teachers and schools are aware of the existing resources so they can connect students and families to them.

Furthermore, teachers expressed wanting to learn more about effective classroom strategies and response strategies they can utilize to support student behaviors that stem from

trauma responses. For training purposes, this can include focusing on topics of identifying signs and behavioral responses stemming from trauma and then discussing and practicing concrete strategies to address those behaviors. As research suggest, 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). As teachers are tasked with crucial role of creating a positive and supporting environment that meets the needs of many students, it is essential to equip them with the knowledge and skills to enable to them to be effective. Thus, 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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APPENDIX A: IRB APPROVAL

EAST CAROLINA UNIVERSITY
University & Medical Center Institutional Review Board
Willis Building · Mail Stop 682
600 Moye Boulevard · Greenville, NC 27834
Office **252-744-2914** · Fax **252-744-2284** ·
rede.ecu.edu/umcirb/

Notification of Exempt Certification

From: Social/Behavioral IRB
To: Chalyne Barrow
CC: Archana Hegde
Date: 12/5/2024
Re: UMCIRB 24-002113
NC Pre-K Teachers' Knowledge, Confidence, Experience and Training needs related to Trauma Informed Care

I am pleased to inform you that your research submission has been certified as exempt on 12/4/2024. This study is eligible for Exempt Certification under category # 2a&2b.

It is your responsibility to ensure that this research is conducted in the manner reported in your application and/or protocol, as well as being consistent with the ethical principles of the Belmont Report and your profession.

This research study does not require any additional interaction with the UMCIRB unless there are proposed changes to this study. Any change, prior to implementing that change, must be submitted to the UMCIRB for review and approval. The UMCIRB will determine if the change impacts the eligibility of the research for exempt status. If more substantive review is required, you will be notified within five business days.

Document	Description
Informed consent(0.03)	Consent Forms
Recruitment script(0.01)	Recruitment Documents/Scripts
Survey(0.01)	Surveys and Questionnaires
Survey for Incentive piece(0.01)	Surveys and Questionnaires
Thesis Proposal (0.03)	Study Protocol or Grant Application

For research studies where a waiver or alteration of HIPAA Authorization has been approved, the IRB states that each of the waiver criteria in 45 CFR 164.512(i)(1)(i)(A) and (2)(i) through (v) have been met. Additionally, the elements of PHI to be collected as described in items 1 and 2 of the Application for Waiver of Authorization have been determined to be the minimal necessary for the specified research.

The Chairperson (or designee) does not have a potential for conflict of interest on this study.

APPENDIX B: SURVEY

Section 1: Knowledge about Trauma Informed Care

Likert scale: 1- Not at all knowledgeable, 2- very little knowledge, 3- some knowledge, 4- knowledgeable, 5- very knowledgeable

1. I am knowledgeable about the symptoms traumatized students display.
2. I am knowledgeable about the impact trauma can have on a student's social success.
3. I am knowledgeable about the impact trauma can have on a student's behavior.
4. I am knowledgeable about the impact trauma has on a student's ability to learn.
5. I am knowledgeable about the impact of positive and negative emotional states on neurological/brain functioning and learning potential.
6. I am knowledgeable about different types of trauma.
7. I understand that symptoms of trauma may be similar or identical to the symptoms of other disability diagnoses.
8. I am knowledgeable about the steps to take if I suspect a student is or has experienced trauma.
9. I am knowledgeable about the steps to take once a student has been identified as experiencing a traumatic event.
10. I am knowledgeable about how my behavior/interaction impacts students who may have experienced trauma.
11. I am knowledgeable about community resources that are available to families of students who may have experienced trauma.

Section 2: Confidence about your Actions

Likert scale: 1- not confident at all, 2- slightly confident, 3-somewhat confident, 4- confident, 5- very confident

How confident, if at all, are you in the following areas:

12. I can make behavioral observations when interacting with students that will help me identify signs of trauma.
13. I can de-escalate and manage student behaviors when necessary.
14. I can interact with students who have faced trauma in ways that have positive impacts on their ability to learn.
15. I can take appropriate steps if I suspect a student is or has experienced trauma.
16. I can take steps to support a student who has been identified as experiencing a traumatic event.
17. I can utilize strategies with the intent to create a safe environment for students.
18. I am self-aware and mindful of my interactions with students.
19. I can use active listening strategies when interacting with students.
20. I can assist traumatized students so that they can learn.
21. I can be positive with all my students.
22. I can mediate when students pick on each other.
23. I can give students opportunities to make choices and decisions that affect them.
24. I can treat students with dignity and respect at all times.

Section 3: Your experience Working with Children who have been Traumatized

25. Are you currently, or have you ever, worked with a student who has experienced trauma?

Choices given Yes (1), No (2)

25a. Throughout your career as a teacher, approximately what percentage of your students have experienced childhood trauma?

Choice given Unknown, 0%, 1-5%, 6-10%, 11-20%, 21-30%, 31-40%, 41-50%, 51-60%, 61-70%, 71-80%, 81-90%, 91-100%

25b. Approximately what percentage of your students that you **currently teach** have experienced trauma?

Choice given Unknown, 0%, 1-5%, 6-10%, 11-20%, 21-30%, 31-40%, 41-50%, 51-60%, 61-70%, 71-80%, 81-90%, 91-100%

Section 4: Training Received and Wanted

26. How much training did you receive about childhood trauma when you were working on obtaining your degree?

"If you answer 'None,' you will skip to the next appropriate question"

Choices given None at all, a little, a moderate amount, a lot, a great deal

27. How many trainings have you attended about trauma in the last 3 years?

Choices given 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, more than 10

27a. In the training events you attended, which of the topics below were discussed? (Click on all that apply.)

Choices given:

What is early childhood trauma

What causes early childhood trauma

How to determine if a child has experienced trauma

What to do if you suspect a child has experienced trauma

How trauma impacts the learning in the early childhood years

How trauma impacts behavior of children in early childhood classrooms

Effective classroom strategies for supporting children who have experienced trauma

How to support parents of children who have experienced trauma

Resources are available in your community for children and families dealing with trauma

Self-care strategies for teachers who work with children who have experienced trauma

28. Consider all the trainings you have attended; how knowledgeable do you feel about the impact of childhood trauma on students' learning?

Choices given not knowledgeable at all (1), slightly knowledgeable (2), moderately knowledgeable (3), very knowledgeable (4), extremely knowledgeable (5)

29. Consider all the trainings you have attended; how confident do you feel about your ability to help traumatized students learn?

Choices given not confident at all (1), slightly confident (2), somewhat confident (3), confident (4), very confident (5)

30. If you are interested in more training, what topics are you interested in learning about? (Click on all that apply.)

Choices given

What is early childhood trauma

What causes early childhood trauma
How to determine if a child has experienced trauma
What to do if you suspect a child has experienced trauma
How trauma impacts the learning in the early childhood years
How trauma impacts behavior of children in early childhood classrooms
Effective classroom strategies for supporting children who have experienced trauma
How to support parents of children who have experienced trauma
Resources are available in your community for children and families dealing with trauma
Self-care strategies for teachers who work with children who have experienced trauma
30b. Would you prefer on-line trainings, in-person training, or a combination of on-line and in-person training?
Choices given on-line training only, in-person training only, a combination of both on-line and in-person training

Section 5: Information about You and Your Work

31. How many years have you been employed as a teacher?

Choices given less than a year, 1-5 years, 6-10 years, 11-20 years, more than 20 years

32. Which of the following best describes your role in the classroom?

Choices given Pre-k teacher, kindergarten teacher, 1st grade teacher, 2nd grade teacher, 3rd grade teacher, Special education teacher, Specialist (example: art, music, physical education), Other (please specify)

33. Which of the following terms best describes your current school?

Choices given: Suburban, Rural, Urban, Combination of Urban or Suburban AND Rural, Not sure how to describe it

34. What percentage of the students in your school qualify for Free- and Reduced-Price School Meals?

Choices given less than 25% of the students receive Free- or Reduced- Price School Meals, 26-50% of the students receive Free- or Reduced- Price School Meals, 51-75% of the students receive Free- or Reduced- Price School Meals, 76-85% of the students receive Free- or Reduced- Price School Meals, 86-100% of the students receive Free- or Reduced- Price School Meals

Demographics: Please answer the following questions about YOU

1. What is your gender

Choices given man, woman, another gender not mentioned here, prefer not to say

2. What is your Race/Ethnicity

Choices given White/Caucasian, Black/African American, Hispanic/Latino(a), Asian, Pacific Islander, Native American, Biracial, Other, please specify

3. What is your age:
4. What is the length of residence in North Carolina?
5. Education Level: please check one

Choices given 4 yr. EC/CD degree, 4 yr. Education degree, 4 yr. degree in related field (specify), 4 yr. degree in other field (specify), Some graduate coursework, Graduate degree

6. From what institution was this degree received?
7. Licensure: please check one
   Choices given Birth to Kindergarten, B-K Add-on, Pre-K Add-on, Elementary, Special Education, CDA, Other: specify, No licensure
8. What is your current licensure status with EES?
   Choices given Residency license, Initial (SP), Continuing (SP), Other, If other, please specify the license
9. Number of years of experience in the education field
10. Number of years of experience as a licensed teacher
11. Number of years teaching NC Pre-K
12. Number of years at this particular center
13. Number of years working in programs that serve low-income families/communities
14. Number of children in class

End of Survey

We thank you for your time spent taking this survey. Your response has been recorded. If you would like to enter to receive one of the 10 $10 gift card, please follow the link to enter your information.

APPENDIX C: DATA ANALYSIS SUMMARY TABLE

Plan of Analysis

Research Questions	Survey Question Analyzed	Statistical Tests
1. How knowledgeable are NC Pre-K teachers about trauma-informed care (TIC)?	SI Q1-Q11 and composite scores	*Descriptive statistics:* Mean, standard deviation, and frequency
1a. Does teachers' age, experience level correlate with their knowledge on trauma-informed care (TIC)?	SVI Q21, Q28, & SI Q1-Q11	*Inferential statistics:* Pearson's correlation
1b. Does teachers' knowledge on TIC differ based on their ethnicity?	SVI Q20 & SI Q1-Q11	*Inferential statistics:* ANOVA
2. How confident are NC Pre-K teachers about their actions with students who have experienced trauma?	SII Q12-Q24 and composite scores	*Descriptive statistics:* Mean, standard deviation, and frequency
2a. Does teachers' age, experience level correlate with their confidence levels?	SVI Q21, Q28, & SII Q12-Q24 and composite scores	*Inferential statistics:* Pearson's correlation
2b. Does teachers' confidence differ based on their ethnicity?	SII Q12-Q24 & SVI Q20 and composite scores	*Inferential statistics:* ANOVA
3. What experiences do NC Pre-K teachers have with regards to working with children who have experienced trauma?	SIII Q25, 25a, 25b	*Descriptive statistics:* Mean, standard deviation, and frequency
3b. Does 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?		*Inferential statistics:* ANOVA

4. What training have NC Pre-K teachers received and want on trauma-informed care?	SIV Q26-Q30	*Descriptive statistics:* Mean, standard deviation, and frequency