EXPLORING THE SCHOOL NURSE'S KNOWLEDGE, EXPERIENCES, AND ROLE IN TRAUMA-INFORMED CARE: IMPLICATIONS FOR SCHOOL NURSE PRACTICE

by

Lesha H. Rouse

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Director of Dissertation: Shannon B. Powell, PhD, MSN, RN, CNE, CDP

Major Department: College of Nursing

School nurses as the only health care professional in schools with the potential to be in daily contact with students are in a critical position to create awareness, influence action, and provide leadership in trauma-informed care (TIC). However, there is a lack of research regarding school nurse TIC knowledge, experiences, and role in school health practice. Research has asserted the pervasiveness of Adverse Childhood Experiences (ACEs) in society as well as, it's potential to cause deleterious life-long health, educational, social, and economic outcomes (Bethell et al., 2017; Felitti et al., 1998; Stevens, 2019). Exploring the school nurse's role in TIC practice can serve as a valuable starting point for development of creative interventional strategies that can impact school nurse TIC practice self-efficacy with the potential to decrease future healthcare costs and improve student health and educational outcomes. The purpose of this study was to explore the school nurse's knowledge, experiences, and role in trauma-informed care in school health practice. This study was conducted in North Carolina using a quantitative, descriptive, design which used data collected from a purposive sample of 165 school nurses, recruited from the School Nurses Association of North Carolina (SNANC) website and snowball sampling. Participants took a 62-item online survey measuring TIC knowledge, experiences, and roles of

school nurses in school health practice. Results from the descriptive statistics indicated that 60% of school nurses felt that they had adequate knowledge of trauma-informed care while 41% felt that they had an adequate ability to assess and intervene in trauma-informed care. Additionally, the main source of school nurse trauma-informed care training was from continuing education programs and on-the-job-training. School nurses indicated feeling least confident about providing trauma-related interventions including counseling and behavioral interventions to students. School nurses identified the most significant barrier to implementing TIC practices as insufficient time. Finally, it was indicated that 13% of the students seen in a typical school year were identified by the school nurse participants as having been exposed to a potential traumatic event. Implications for school nurse practice call for integration of TIC practice due to the prevalence of ACEs in the students that school nurses interact with daily. School nurse continued professional development in TIC practice as well as, advocacy for community and systemic change is essential.

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Lesha Rouse

APPROVED BY:
DIRECTOR OF DISSERTATION: _____
Shannon B. Powell, PhD, MSN, RN, CNE, CDP

COMMITTEE MEMBER: _____
Melvin Swanson, PhD, BS

COMMITTEE MEMBER: _____
Thompson Forbes, PhD, MSN, NE-BC

COMMITTEE MEMBER: _____
Travis Lewis, Ed.D

CHAIR OF THE DEPARTMENT
OF NURSING SCIENCE: _____
Pamela Reis, PhD, CNM, NNP-BC, FACNM

DEAN OF THE GRADUATE SCHOOL: _____
Paul J. Gemperline, PhD

DEDICATION

"I can do all things through Christ which strengthens me." Philippians 4:13

First, I would like to thank God, who is the giver of all good things. I would like to give my heartfelt thanks, to so many who supported and encouraged me along this enriching journey. I am forever changed by the time, effort, positive energy, and love provided to me from family, friends, and colleagues. In dedication to my mother who is now deceased, Della Mae Harkley, I give you my thanks and everlasting love for your gentle guiding spirit, that I feel around me every day. Thank-you, for always being my biggest cheerleader and for giving me your unconditional love and support.

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CHAPTER I: INTRODUCTION

According to renowned internist and childhood trauma specialist Vincent Felitti (2009), "what happens in childhood—like a child's footprints in wet cement—commonly lasts throughout life. Time does not heal; time conceals" (p. 131). Adverse childhood experiences [ACEs] are described as potentially traumatic events that occur to children between the ages of 0 to 17 (ACEs, 2020: Felitti et al., 1998). The National Child Traumatic Stress Network [NCTSN] describes a traumatic event as a "frightening, dangerous, or violent event that poses a threat to a child's life or bodily integrity" (n.d., para 1). The World Health Organization [WHO] defines "childhood trauma and adversity as all forms of physical and emotional abuse, neglect or exploitation that results in actual or potential harm to a child" (Pearce et al., 2019, p. 1). Childhood trauma are traumatic experiences that occur when children are exposed to events or situations that overwhelm their ability to cope with what they have experienced (NCTSN, 2015). Childhood trauma often goes unrecognized unless it is identified through interview with children and caretakers during a school health assessment (Flaherty et al., 2009). Consequently, the effects of childhood trauma often manifest as chronic disease and physical complaints (Flaherty et al., 2009) which may initiate the student's first encounter with the school nurse.

In 2016, 34 million children which is nearly half of all US children had at least one adverse childhood experience, and more than 20 percent had two or more (Bethell et al., 2017). Some of the most common types of ACEs include experiencing violence, abuse, or neglect, having a family member attempt or die by suicide, substance misuse, and mental health problems (ACEs, 2020: Felitti et al., 1998). Also included are aspects of a child's environment that threaten their sense of safety, stability, and bonding such as growing up in a household where there is violence in the home or community, parental separation due to incarceration or, other

potential generational and systemic adverse experiences (ACEs, 2020: CDC, 2020a; Felitti et al., 1998). Furthermore, other expanded forms of ACEs described in the literature include traumatic loss of a loved one, sudden and frequent relocations, serious accidents, life-threatening childhood illness/injury, pornography (exposure or participation), prostitution, natural disaster, kidnapping, torture, war, refugee camps, and terrorism (Center for the Study of Traumatic Stress, 2015; Dube et al., 2001; Felitti et al., 1998; Kessler et al., 2010; NCTSN, 2015).

Regardless of the type of ACE a child may be exposed to, their experiences may lead to serious lifelong consequences (Felitti et al., 1998). Studies have shown that ACEs contributes to most major chronic health, mental health, economic health, and social health issues, even being a root cause of most violence (Stevens, 2019). Additionally, having one or more ACEs is significantly associated with chronic school absenteeism which impacts student grades and ultimately graduation rates (Stempel et al., 2017). According to the WHO (2021), "children who experienced any form of violence in childhood have a 13% greater likelihood of not graduating from school" (para 3).

Consequently, trauma-informed care approaches were established which acknowledge the impact of childhood trauma and recognize possible paths for recovery; recognize the signs of trauma; integrate knowledge about trauma into policies, procedures, and practices; and aim to prevent re-traumatization (Cavanaugh, 2016, SAMHSA, 2014). Trauma-informed frameworks emphasize strong, supportive, nurturing relationships which help to mitigate the effects of ACEs (Massachusetts Advocates for Children and Harvard Law School, 2013). The WHO asserts that to prevent violence against children a systematic approach to address risks and protective factors at an individual, relationship, community, and societal level is necessary (2020). Schools can

serve as potential sites for community-level prevention and school nurses as potential providers of relationship-level prevention.

As a result of the prevalence of ACEs and their potential lifelong deleterious effects, schools are increasingly being called upon to address the impact of childhood trauma exposure on behavior and learning (Gubi et al., 2019). Research indicates that some schools have successfully implemented trauma-informed approaches however, process evaluations have identified several barriers to such success (Martin et al., 2017). Some of these barriers include: lack of support from administrators and teachers; competing teacher responsibilities; problems engaging parents, especially if the language about trauma-informed care feels threatening; and stigma regarding mental health concerns (Martin et al., 2017). Furthermore, federal legislation and policies have been enacted such as the Every Student Succeeds Act which calls for more equitable school environments utilizing evidence-based interventions to promote student success for all students (Every Student Succeeds Act, 2015). Similarly, the National Education Association passed resolutions supporting trauma- informed schools (National Education Association, 2021). However, there remains a lack of research that explores the school nurse's role and knowledge regarding trauma-informed care practices in the school setting.

Background and Significance

ACEs are described as traumatic events that occur during childhood, which may include experiencing violence, abuse, or neglect, witnessing violence in the home or community, having a family member attempt or die by suicide as well as, substance misuse, mental health problems, instability due to parental separation or household members being in jail or prison (ACEs, 2020: Felitti et al., 1998). In the foundational 1998 study on ACEs, the researchers identified a cumulative dose- response relationship between the breadth of exposure to traumatic events

during childhood and multiple risk factors for several of the leading causes of death in adulthood (Felitti et al., 1998). Evidence suggests that the body's sustained exposure to extremely high levels of stress hormones referred to as toxic stress (Blitz et al.,2016; Shonkoff et al., 2012) is associated with violence in early childhood and can permanently impair brain development, cause damage to children's developing nervous systems, and impair the immune system (Gaskill & Perry, 2014; Perry, 2002, 2006, & 2007; WHO, 2020; WHO, 2021). The National Child Traumatic Stress Network (NCTSN; n.d.) assert that traumatic or toxic stress may manifest in a variety of ways that affect children's daily lives; they may experience:

> intense and ongoing emotional upset, depressive symptoms, or anxiety, behavioral changes, difficulties with self-regulation, problems relating to others or forming attachments, regression, or loss of previously acquired skills, attention and academic difficulties, nightmares, difficulty sleeping and eating, and physical symptoms, such as aches and pains. (para. 5)

Some children's altered behaviors in response to stress can lead to potentially retraumatizing events such as being removed from class, suspended, expelled, and, in extreme cases, restrained or secluded (Baker et al., 2016). There are also particular groups of children who are exposed to extreme stressful adverse events such as children in foster care, run away and homeless youth, lesbian/gay/bisexual/transgender/questioning youth, and youth in the juvenile justice system (Martin et al., 2017).

In response to the pervasiveness of ACEs and its potential for far reaching deleterious health and educational outcomes a systematic approach was deemed necessary to best address

the traumatic events affecting students and other clients exposed to ACEs (Baker et al., 2016; Gubi et al., 2019; King et al., 2019). Hence, in the 1990's a new term, trauma-informed care [TIC], was coined to describe "care that recognizes and responds to the signs, symptoms, and risks of trauma to better support the health needs of patients who have experienced Adverse Childhood Experiences (ACEs) and toxic stress" (SAMHSA's Concept of Trauma and Guidance for a Trauma-Informed Approach, 2014; Baker et al., 2016). Approximately 45% of children in the United States have experienced at least one ACE, and that percentage is significantly higher in certain states with higher poverty rates (Sacks & Murphey, 2019; Steele et al., 2016). Nationwide, 1 in 10 children have experienced three or more ACEs (Sacks & Murphey, 2019; Steele et al., 2016). Due to the prevalence of ACEs in the general population, researchers suggest that health care providers approach every patient as though they have a trauma history (Stokes et al., 2017). Stokes et al. (2017) describes this approach as the "lens of universal trauma-precautions" (p. 2).

Consequently, with increasing evidence that TIC can lead to improved patient care outcomes (Morrissey et al., 2005; Suarez et al., 2014), the recognition of TIC knowledge and clinician competency is becoming more relevant (King et al., 2019). Traditionally, children spend approximately 32 hours a week in school, which positions schools as excellent sites for implementation of TIC. According to Gubi et. al. (2019) trauma-informed schools "systematically acknowledge the prevalence of trauma; recognize how trauma can impact children, families, educators, and school staff; and incorporate a comprehensive perspective on trauma that enacts trauma-informed practices throughout the entire school system" (p. 178). The need for the incorporation of TIC approaches are well documented (AAP, 2014; King et al., 2019), yet research is lacking in understanding the school nurse's knowledge of TIC. Therefore,

the role of the school nurse in preventing short and long-term deleterious health and educational outcomes for students exposed to ACEs is not understood. This study will explore school nurse involvement in trauma-informed care and describe how school nurses can be an integral force in the future development of school-based trauma-informed programs which address the needs of students impacted by ACEs.

Theoretical Perspectives

Two theoretical frameworks guide this study Bronfenbrenner's Ecological Framework and the Whole School, Whole Community, Whole Child Model. The integration of Bronfenbrenner's (1979/2006) ecological systems theory and The Whole School, Whole Community, Whole Child (WSCC) Model (2014) which is an expansion of the coordinated school health model provides a structure that can be used to explore school nurse knowledge of trauma-informed care (TIC) and demonstrate how collaboration between parents, schools, and communities impact health and educational outcomes for children exposed to ACEs.

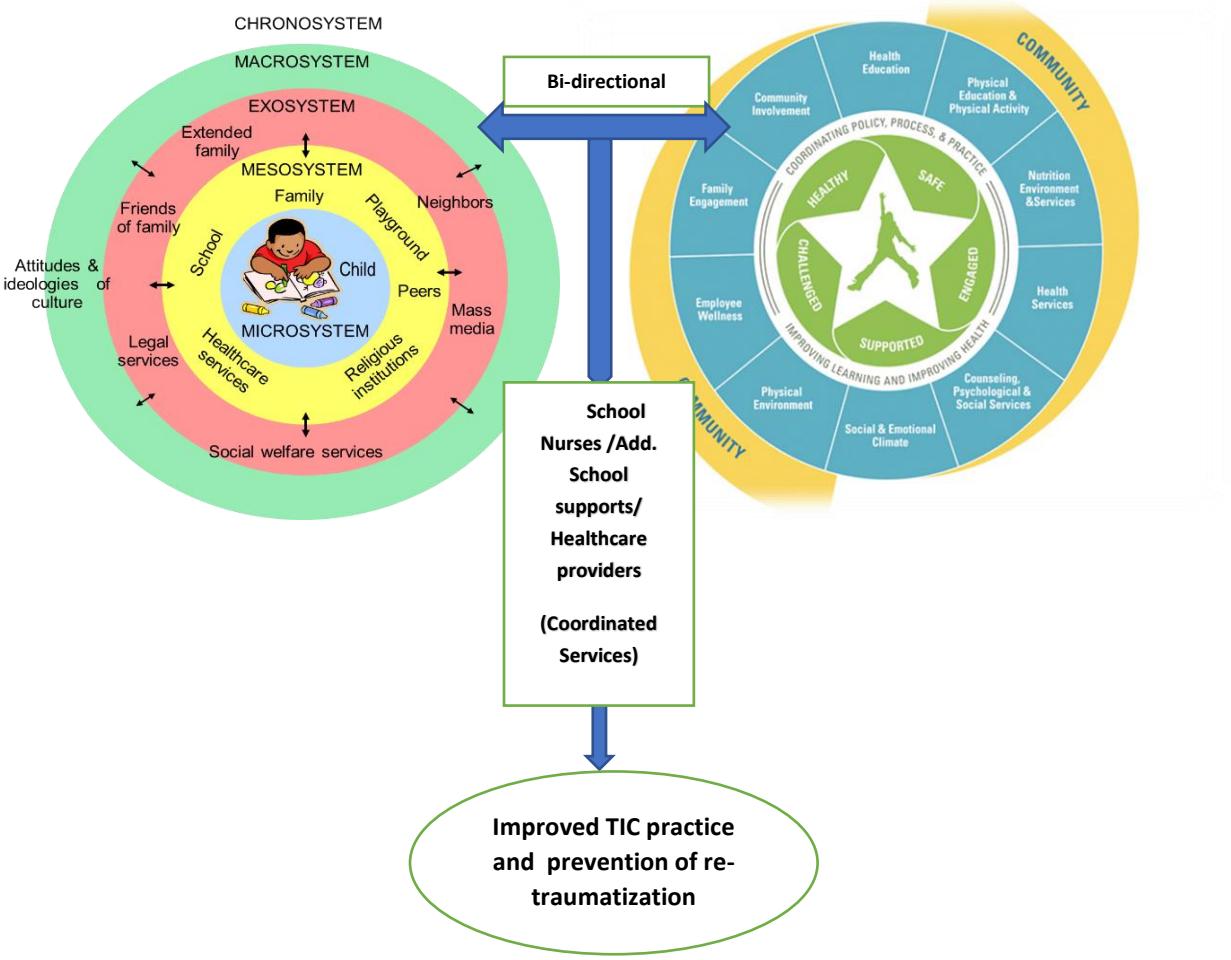
The Ecological Systems Theory (Figure 1) provides a visualization of the bi-directional relationship between environments/systems that children live in (microsystem) and are influenced by. The ecological systems theory asserts that each system is interrelated and affects children's psychosocial, physical, and emotional wellbeing either positively or negatively (Bronfenbrenner, 1979). The ecological systems theory will guide my research by demonstrating how traumatic events that occur in a child's environment can impact children's behaviors and responses to stressors at school. Which in turn can inform school nurse trauma-informed care practice in the school setting. Children's health has been linked to adverse childhood experiences which compromises nurturing interactions between parents and their children, with far reaching effects on children's current and future health and social outcomes (Traverso et al., 2017). The

ecological model highlights a multilevel approach needed for improvement in ACEs interventions which include the school nurse, family, and community involvement (Srivastav et al., 2020).

The WSCC model is based on a collaborative and integrative effort between education, public health, and school health sectors to improve children's cognitive, physical, social, and emotional development (CDC, WSCC, 2018). This model also illustrates the bi-directional influence of the student's microsystem and the reciprocal impacts between school, health services, and the community at various levels (Figure 1). Children are at the center of the WSCC model. This ensures that the model's focus is on keeping youth healthy, safe, engaged, supported, and challenged (WSCC, 2018). This model stresses the need for coordination of school policies, processes, and practices. It is at this level that school nurse and student interaction would be initiated and the school nurse's knowledge of trauma- informed care would be critical for successful health outcomes and prevention of re-traumatization. Use of this student focused model in this manner demonstrates the need of the school nurse to have an awareness of their knowledge regarding ACEs and trauma-informed care as a starting point to provide "appropriate evidence-based trauma-specific treatments that traumatized students need to minimize long-term effects of ACEs" (Martin et al., 2017, p.964).

Figure 1

Theoretical Influences of Bronfenbrenner's Ecological Systems Theory and WSCC Model



Adapted from: Bronfenbrenner's Ecological Theory 1977 and WSCC Model 2014

Note: The Ecological Theory and the WSCC Model demonstrate the bi-directional influences of the child's multi-level environments and the school's coordinated services. These influences help inform school nurse practice when providing TIC to students and aids in prevention of re-traumatization.

Statement of the Problem

Adverse Childhood Experiences are so pervasive throughout society that it has been referred to as a public health epidemic (Women and Trauma Federal Partners Committee & United States of America, 2013). Studies have shown that children exposed to childhood

adversity have significant risk of developing chronic diseases such as asthma, ADHD, anxiety, and depression (Oh et al., 2018). When one ACE occur, there is an 87% chance that two or more will be present (Stevens, 2019). Furthermore, studies have shown that ACEs have a cumulative effect and the more traumatic experiences an individual has the greater the risk for chronic disease, mental illness, violence and being a victim of violence (Felitti et al.,1998; Stevens, 2019; Oh et al., 2018). Consequently, school nurses as the only healthcare personnel in schools, are ideally positioned to positively influence the trajectory of those experiencing ACEs and its long-term impacts on student health and educational outcomes. Assessment of school nurse trauma-informed knowledge will demonstrate a starting point to promote understanding regarding how trauma can impact the behaviors, learning, and well-being of children and families (Bartlett & Sacks, 2019; Gubi et al., 2019; King et al., 2019; Stokes et al., 2017).

In conclusion, current literature affirms that school nurse interventions used for children exposed to adverse traumatic events are few (Stokes et al., 2017). This proposed study will use an existing school psychologist trauma-informed care measurement tool that will be adapted into a tool to measure the school nurse's knowledge, experiences, and role in trauma-informed care in school nurse practice.

Purpose of the Study

The purpose of this study is to explore the knowledge, experiences, and role of the school nurse in trauma-informed care in school health practice. A descriptive, correlational research design will be used for this study. This design is used to describe relationships among the independent and dependent variables rather than to infer causality (Polit & Beck, 2017).

Research Questions

The overarching research question for this study is what is the school nurse's knowledge, experience, and role in trauma-informed care in school health practice. The specific research questions addressed in this study will seek to examine:

RQ 1: What are the characteristics of the school nurse study sample regarding (1) demographics, (2) work setting, (3) formal and informal training in delivering TIC, (4) types and frequency of ACE experiences and (5) the types of TIC activities they are currently involved with in school settings?

RQ 2: What specific modes of service delivery (assessment, intervention, consultation) do school nurses report feeling the most- and the least- confident providing?

RQ 3: What is the relationship between school nurse TIC practices and, 1) demographics, 2) TIC training, 3) confidence in providing TIC, 4) types of ACEs observed in the students, and 5) work environment characteristics?

RQ 4: What TIC activities do school nurses believe they should be involved with and what barriers to provision of TIC are in school settings?

Assumptions

The assumptions made in this study are:

- Participants will complete the surveys voluntarily.
- Responses received from the participants will accurately reflect their professional opinions.

- The sample studied will be representative of the total population of school nurses currently practicing in the state of North Carolina.
- Participants will be able to read and write in English.

Delimitations

The factors that the researcher can control in this study are:

- Study population will be composed of a purposive, snowball, homogenous sample
- School nurses will be identified as currently active school nurses including lead nurses that are assigned to at least one school in private and public schools in NC.
- Timeframe of the study: October 2021 through November 2021
- Data will be collected via RedCap via an online format
- Ten $50 Amazon electronic gift cards will be used as incentives for participants that completed the online survey via a drawing.

Operational Definitions

For this study, the following definitions will be used:

School Nurse. A registered nurse or a licensed practical nurse who works in school settings in NC, who may be assigned to at least one school in which they provide care coordination, collaborate services, and advocate for quality student-centered care (NASN, 2021) for students, teachers, and staff. This may also include a lead school nurse if they are assigned to at least one school in which they provide care for the mental and physical health of students, teachers, and staff.

Adverse Childhood Experiences (ACEs). Traumatic events in children's lives that include physical and emotional abuse and neglect, sexual abuse, and household dysfunction such

as divorce, living with an adult experiencing mental illness or substance abuse, witnessing violence within the home, or the incarceration of a family member (Felitti et al., 1998).

Trauma-informed Care (TIC). Care that realizes the prevalence of trauma, recognizes the widespread impact of trauma, responds to trauma by integrating trauma knowledge into policies, procedures, and practices, and actively seeks to prevent re-traumatization to better support the health needs of patients who have experienced Adverse Childhood Experiences (ACEs) and toxic stress (SAMHSA, 2014; WHO,2020; WHO, 2021).

Trauma-informed schools. Schools that systematically acknowledge the prevalence of trauma; recognize how trauma can impact children, families, educators, and school staff; and incorporate a comprehensive perspective on trauma that enacts trauma-informed practices throughout the entire school system (Gubi et al., 2019).

School. For the purposes of this study a school will be defined as a public or private organization were children ages 0-17 attend for educational instruction (Merriam-Webster, n.d.).

Childhood/children. For the purpose of this study childhood/children will be defined as school students <18 years of age.

Knowledge. The range of the school nurse's knowledge gained through experience or association of exposure to ACEs and trauma-informed care practice (Merriam-Webster, n.d.).

Formal Training. Organized **i**nformation sharing gained through sources such as continuing education, in-services, and online training by experts (IGI, 2021) on ACEs and trauma-informed care practices.

Informal Training. Information gained from sources that are non-structured, such as on-the-job training, co-workers and supervisors about ACEs and trauma-in-formed care (Training Industry, 2021).

Confidence. A belief in oneself, the conviction that one has the ability to meet life's challenges and to succeed and the willingness to act accordingly. Being confident requires a realistic sense of one's capabilities and feeling secure in that knowledge (Psychology Today, 2021).

Barriers. Something such as a rule, law, or policy that makes it difficult or impossible for something to happen or be achieved (Collins's dictionary, n.d.). Examples to include but are not limited to the following: school board, administrative policies.

Case Management. The intentional use and documentation of the steps of the nursing process (assessment, planning, implementation, and evaluation) through a written care plan and continuous interactions with all involved stakeholders (students, parents, teachers, health care providers etc.) in a manner that achieves individual health and education goals (NCDPH/School Health Unit, 2020).

Summary

Adverse Childhood Experiences (ACEs) are a public health epidemic that has far reaching health implications for children. Studies have shown that children exposed to childhood adversity have significant risk of developing chronic diseases such as asthma, ADHD, anxiety, and depression (Oh et al., 2018). Trauma -informed care recognizes and responds to the signs, symptoms, and risks of trauma to better support the health needs of children who have experienced ACEs and seeks to mitigate its deleterious effects. Traditionally, children spend

approximately 1,152 hours per year in school with the exception of crisis situations such as COVID-19. Consequently, school nurses are in a unique position to address the physical, mental, emotional, and social health of students and to provide case management to students that have been exposed to ACEs. However, there is a lack of research about school nurse knowledge regarding integration of trauma-informed care principles in school health practice. A descriptive, correlational research design will be used to conduct this study.

Organization of the Dissertation Paper

This dissertation paper will be organized into five chapters, a reference section, and appendices in the following manner. Chapter 2 will present a review of the related literature dealing with the theoretical perspectives that underpin this study. It will also outline current evidenced based research regarding ACEs and trauma-informed care and the school nurses' role in providing trauma-informed care to students exposed to ACEs Chapter 3 will delineate the research design and methodology of the study. The instrument adapted to gather data, the procedures followed, and determination of the sample selected for the study will also be discussed. Chapter 4 will present analysis of the data and discussion of the findings. Finally, chapter 5 will contain a discussion about results obtained, limitations of the study, implications of the findings, and recommendations for future research.

CHAPTER II: REVIEW OF THE LITERATURE

The purpose of this study is to explore the knowledge, experiences, and role of the school nurse in trauma-informed care in school health practice. This chapter will provide a comprehensive review of the pertinent literature to demonstrate the need for this research study. A review of scholarly and research articles was conducted using MEDLINE (PubMed), ProQuest Nursing & Allied Health Source, PsycINFO and Education Resources Information Center (ERIC) databases. Key search terms included: adverse childhood experiences, ACEs, trauma-informed care knowledge, school nurses, schools. All database sources covered a 25-year time frame, ranging from 1995-2020. Articles in the English language that met the criteria described in this section were considered.

This literature review is comprised of five main sections. The first section examines Bronfenbrenner's Ecological Systems Theory and the Whole School, Whole Community, Whole Child Model [WSCC], the theoretical background supporting this study will provide justification of the use of this theory. Section two describes the history of adverse childhood experiences [ACEs]. Section three will discuss the definition(s) of trauma and resilience and offer an overview of trauma-informed care it will also describe the deleterious effects that ACEs have on children. Section four will explore empirical and conceptual literature related to the current role of the school nurse in trauma-informed care while also discussing the dependent variable school nurse's knowledge of trauma-informed care in school health practice. Section five will discuss the independent variables: (a) experiences, (b) education and training, (c) confidence, (d) current and desired roles, (e) perceived barriers in this study. The final section presents a summary of the chapter and conclusions drawn from the review of the literature.

Theoretical Perspectives

Bronfenbrenner's Ecological Systems Theory

The theoretical underpinnings that support my study are Bronfenbrenner's Ecological Systems Theory and The Whole School, Whole Community, Whole Child, or WSCC model (see Figure 1). Bronfenbrenner's Ecological Systems theory (see Figure 2) is usually depicted as a series of nested circles, with the child at the center, surrounded by levels of influence representing relationships, community settings and societal levels (CDC, 2015a). The ecological systems theory has been identified as the most appropriate theoretical framework for this study because this theory recognizes the bi-directional relationship between the child and the child's environment at varying levels and emphasizes how this effects children's growth and development. The ecological systems theory "contextualizes how the layers of home and community are interconnected" (CDC, 2015a). This theory can inform school nurse practice by assisting the school nurse to identify factors at different levels (the individual, the interpersonal, the community and societal) that contribute to poor overall health outcomes and help to develop approaches to disease prevention and health promotion that include action at those levels (CDC, 2015.Srivastav et al., 2020).

Bronfenbrenner labeled different aspects or levels of the environment that influence children's development as follows: the microsystem, the mesosystem, the exosystem, the macrosystem, and the chronosystem (Oswalt, 2020). Moving outward (see Figure 2) from the child (microsystem) contains relationships between the individual and the immediate environment surrounding the individual, such as the home, school, and workplace (Bronfenbrenner, 1977). The (mesosystem) includes relationships with family, friends, and peers, children living with adverse events such as parental substance use, family conflict, and in

poverty struggle with school attendance (Stempel et al., 2017). This theory acknowledges that students(microsystems) are not mere recipients of the experiences they have when socializing with the people in the mesosystem environment, but they are contributing to the construction of the environment, therefore the relationships are bi-directional. (Danielson & Saxena, 2019; Explorable, 2020; Guy-Evans, 2020).

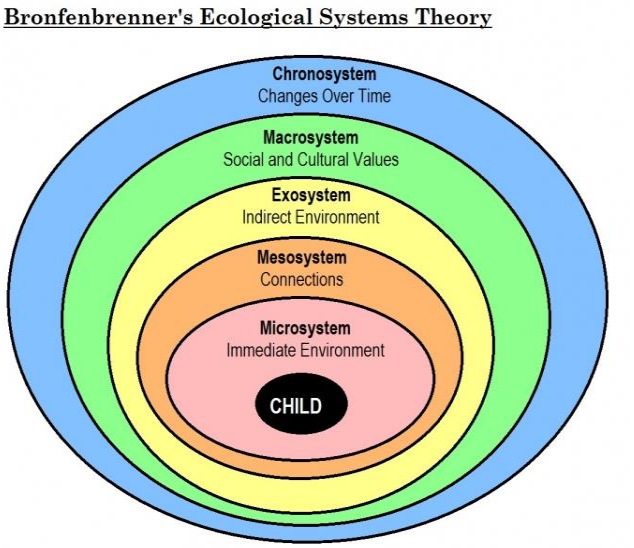
Extending further to the community level (exosystem) where organizations, workplaces and social and physical environments exist the ecological systems theory seeks to identify the characteristics of these settings that positively or negatively affect the health of the individual (CDC, 2015a; Danielson & Saxena, 2019). The macrosystem focuses on how cultural elements affect a child's development, such as socioeconomic status, wealth, poverty, and ethnicity (Guy-Evans, 2020). This level indicates that the culture that students are immersed within may influence their beliefs and perceptions about health (Guy-Evans, 2020). The chronosystem includes the transitions and shifts in a child's lifespan. Bronfenbrenner wanted to consider changes over time, not only within the person but also in the environments in which that person lives (Bronfenbrenner, 1986). This may involve the socio-historical contexts that may influence a student's health. One classic example of this is how divorce, as a major life transition, may affect not only the couple's relationship but also their children's behavior (Explorable, 2020; Guy-Evans, 2020).

Children's health has been linked to a stressful family environment generated by socioeconomic and cultural deprivation which compromises a nurturing interaction between parents and their children, with far reaching negative effects on children's current and future health and social outcomes (Traverso-Yepez et al., 2017). The Bronfenbrenner ecological systems theory identifies a comprehensive list of factors that contribute to poor health and seeks

to develop a broad approach to health problems that involves actions at many levels to produce and reinforce transformative change (CDC, 2015a; Danielson & Saxena, 2019). The Ecological systems theory asserts that a child's health is determined by mutual influences between individual factors and the ecological systems surrounding an individual, as well as interactions between and within these ecological systems (Bronfenbrenner, 1979). This theory is used to highlight the multilevel approach needed for improvement in ACEs intervention which includes multiple stakeholders including school nurses (Srivastav et al., 2020).

Figure 2

Bronfenbrenner's Ecological Systems Theory (1979)



Whole School, Whole Community, Whole Child Model

The second theoretical framework that underpins this study is The Whole School, Whole Community, Whole Child, or WSCC model. It is the Centers for Disease Control (CDC) framework for addressing health in schools. The WSCC model is student-centered and

emphasizes the role of the community in supporting the school, the connections between health and academic achievement and the importance of evidence-based school policies and practices (CDC Healthy Schools, 2020). The WSCC model consists of 10 components: (1) physical education and physical activity, (2) nutrition, (3) health education, (4) social and emotional school climate, (5) physical environment, (6) health services, (7) counseling, psychological and social services, (8) employee wellness, (9) community involvement, (10) family engagement (CDC Healthy Schools, 2020).

The WSCC model meets the need for greater emphasis to be placed on both psychosocial and physical environment as well as the role that community collaboration and families play in improving childhood health behaviors and development (CDC Healthy Schools, 2020). The WSCC model also addresses the need to engage students as active participants in their learning and health. Several components that comprise the WSCC model pertain to student health and can be used as supportive resources for children that have been exposed to ACEs. These components include the school health program which is the point that school nurses and children with health conditions who have been exposed to ACEs would meet. The other components of the WSCC model that provide supportive health services include health education, social and emotional school climate, counseling, psychological and social services, community involvement, and family engagement (see Figure 3). School nurses have reported successful outcomes when utilizing the WSCC approach in the areas of student and employee wellness, health advocacy, professional learning communities, and community support (Galemore et al., 2016).

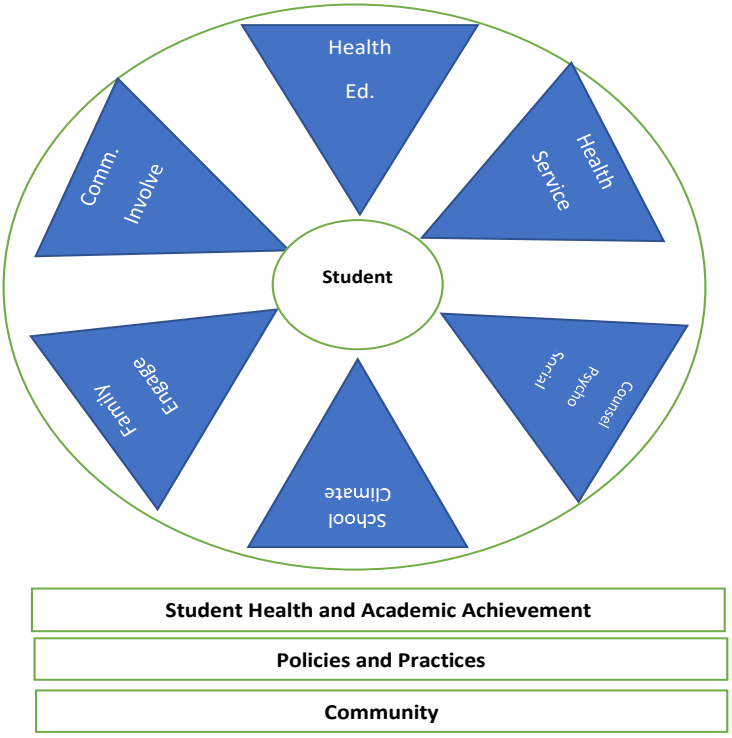
According to the National Association of School Nurse's (NASN) students cannot learn if they are absent or if they come to school sick, tired, hungry, under the influence of drugs/alcohol, or are fearful of violence at home or school (NASN, 2018). Allensworth and

Kolbe's (1987) asserted that "schools could do more perhaps than any other single agency in society to help young people, and the adults they will become, to live healthier, longer, more satisfying, and more productive lives (p. 409).

Bronfenbrenner ecological systems theory and the WSCC model has been identified as the most appropriate theoretical underpinnings for this study because they seek to understand children within context uniting the student, the student's family, the school nurse, the school, and the community. It is at the mesosystem level (see Figure 1) that school nurse intervention is initiated with the student and the school nurse's knowledge of trauma- informed care would be critical for successful health outcomes. Use of this student focused theory and model in this manner demonstrates the need of the school nurse to have an awareness of their knowledge regarding ACEs and trauma-informed care when providing health interventions to children in the school setting. Martin et al. (2017) affirmed that a basic understanding of trauma and its impact on children exposed to ACEs is necessary to help create a safe and welcoming environment for trauma survivors.

Figure 3

Adapted Whole School, Whole Community, Whole Child Model



Note: The WSCC model shows that the student is at the center demonstrating the need to engage students as active participants in their learning and health. The WSCC model emphasizes the role of the community in supporting the school, the connections between student health and academic achievement and the importance of evidence-based school policies and practices.

Historical Perspectives of Adverse Childhood Experiences

ACEs are described as stressful and traumatic events that occur between the ages of 0-17, which may include experiencing violence, abuse, or neglect, witnessing violence in the home or community, having a family member attempt or die by suicide as well as, substance misuse, mental health problems, instability due to parental separation or household members being in jail or prison (ACEs, 2020: Felitti et al., 1998). In 1985, Dr. Vincent Felitti an internist practicing at

the Preventative Medicine Department at Kaiser Permanente in San Diego, California made a startling discovery. He noted that more than 200 clients who were a part of his obesity clinic were dropping out of the program even though they were successfully losing weight. Upon, interviewing these clients one client's response to a specific question was notable. When the client was asked how much she weighed when she had her first sexual encounter the client stated, "about 40 pounds". As Dr. Felitti continued his questioning the client revealed that she was 4-years old when her father first started having a sexual relationship with her. During these interviews, Dr. Felitti identified a central theme, child abuse was extraordinarily commonplace in the lives of many of his clients and had preceded development of obesity (Felitti, 2002). Dr Felitti hypothesized that although the participants in his weight loss clinic attempted to bury the shame and secrecy of traumatic life experiences that occurred during their youth, these traumatic events continued to have negative outcomes on their lives (Waite & Ryan, 2019). He contended that obesity served as a form of self-preservation for many of the participants in his weight loss program. Dr. Felitti surmised that they felt more secure being larger versus a more normal size because they felt they would be less physically desirable due to their larger size (Felitti, 2002).

This discovery led to the sponsorship of a large, collaborative epidemiologic study between Kaiser Permanente the largest prepaid, non-profit, health care delivery system in the United States, and the CDC, now known as the ACE study (Waite & Ryan, 2019; Felitti et al., 1998). The ACE study sought to examine if risk factors for disease, disability, and early mortality were randomly distributed then what early life influences may have preceded or impacted their development (Murphy et al., 2014).

The ACE study included approximately 17,000 individuals. The researchers at the CDC designed the research protocols that would compare the current participant adult health status to

their childhood experiences that had occurred decades earlier. The ACE study was conducted at Kaiser Permanente in two waves from 1995-1997 and participants were followed for 15 years (Murphy et al., 2014). Each research participant supplied detailed data about their childhood experiences of abuse, family dysfunction, neglect, as well as their current health status and behaviors via a survey format (Felitti et al., 1998; Murphy et al., 2014).

The findings from the ACE study were pivotal indicating that ”ACEs are a central determinant of the health and social well-being of the nation” (Waite & Ryan, 2019, p. 8). The scoring indicated that one-third of the participants in the original ACE study had an ACE score of zero. Which suggests that although ACEs are common everyone has not been impacted by them. Furthermore, the study found that if any one ACE category was reported there was an 87% probability that at least one additional ACE category would exist (Murphy et al., 2014; Felitti et al., 1998). Moreover, one in six people indicated an ACE score of 4 or more and participants with this ACE score had a 240% greater risk of hepatitis and sexually transmitted disease, were 460% more likely to experience depression, and were 390% more likely to have chronic obstructive pulmonary disease compared to persons with an ACE score of zero (Murphy et al., 2014). In addition, participants with an ACE score of four or more were twice as likely to be smokers, seven times more likely to be an alcoholic, ten times more likely to have injected street drugs, twelve times more likely to have attempted suicide compared to individuals with an ACE score of zero (Murphy et al., 2014). As well as, one in ten individuals reported an ACE score of five or more which indicated that approximately 10% of 17,000 participants had been exposed to five or more of the ACEs categories. (Murphy et al., 2014).

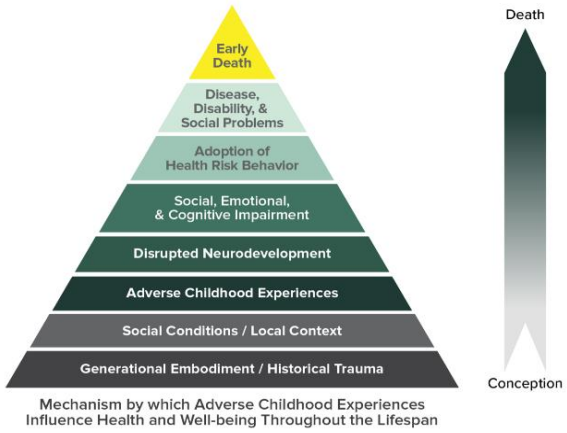
The results from this seminal study also indicated that there is a strong graded relationship between the magnitude of exposure to abuse, neglect or household dysfunction

during childhood and numerous risk factors for some of the principal causes of death in adulthood (Felitti et al., 1998). The CDC (2020a) affirms that the ACE study must be used as insight given our awareness of its strong correlation to risky health behaviors (e.g., alcohol and drug abuse, obesity, smoking, and sexual risk behaviors), chronic health conditions (e.g., ischemic heart disease, coronary obstructive pulmonary disease, and liver disease), low life potential (e.g., depression, suicide, and work absenteeism), as well as early death. A limitation noted of the original study was that the sample was predominantly white (75%), high school graduates (93%) with private health insurance 100% (Felitti, et al., 1998).

Since the original ACE study other researchers have expanded the list of traumatic events that compose ACEs. They have added neighborhood and community-level violence, bullying, disasters such as floods and COVID 19, and medical trauma which occurs in approximately 80% of critically ill or injured children and their families following long-term health issues. Refugee trauma has also been included as an adverse event due to the traumatic impact that children can experience during episodes of war and persecution. Finally, sex trafficking, terrorism and racism have also been added to the list of potential traumatic events (NCTSN, n.d.). The effects of ACEs have been judged by many developmental researchers as an important factor in predicting long-term health and well-being outcomes even being linked as a cause of early death (see Figure 4) (Feuer-Edwards et al., 2016; NCTSN, n.d.; Waite &Ryan, 2019).

Figure 4

The ACE Pyramid (CDC, 2021)



Trauma-Informed Care

Trauma

To fully understand trauma-informed care, an understanding of trauma and how it impacts healthy development is essential. Trauma is defined as "an emotional and physical response that occurs when a person's internal and external resources are inadequate to cope with an external threat" (Feuer-Edwards et al., 2016, p.6). The word trauma stems from the Greek term for wound (τρα ῦ μα) related to physical injury (Danese & Baldwin, 2017). Early empirical research pertaining to trauma contended that if traumatic memories cannot be verbally or symbolically processed, then they are stored as physiological reactions to stimuli, situations, or states of arousal that recall the traumatic experience (van der Kolk,1994).

Similarly, French neurologists Charcot and Janet hypothesized trauma as the subjective view of powerfully distressing experiences which elicited psychological and physical symptoms (hysteria) (Danese & Baldwin, 2017). Furthermore, Sigmund Freud, expanded upon Charcot and

Janet ' s psychological theory and asserted the idea that powerfully upsetting experiences (i.e., psychological traumas, especially those taking place in childhood) may well have substantial effects on both psychological development and mental health (Danese & Baldwin, 2017). Research suggests that "the lens of trauma must be broadened to include knowledge that emphasizes strengths and resilience; the experiences of groups and communities; experiences across diverse cultures and social contexts; inclusion of previously marginalized voices; and connections between trauma and oppression" (McKenzie-Mohr, 2004, p. 47; Quiros & Berger, 2015; Waite & Ryan, 2019).

There are three distinct types of trauma: acute, chronic, and complex (Department of Children and Families [DCF], 2012). Acute trauma refers to a single event, such as a natural disaster such as COVID-19 or a parent's suicide, it is non-recurrent, short occurrence, random, and unanticipated event such as rape (Waite & Ryan, 2019). Chronic trauma refers to repeated exposure to assaults on the mind or body, such as repeated sexual assaults or domestic violence. Complex trauma refers to exposure to chronic trauma, generally by the child's primary caregivers, and the impact of such exposure over time (DCF, 2012; Waite & Ryan, 2019). Toxic stressors are those that are chronic or uncontrollable and serves as a precursor to complex trauma. Examples of toxic stress is living in poverty with a caregiver who is experiencing depression or drug use or is involved in an abusive relationship. Complex trauma characteristically starts in childhood and is enduring, persistent, and continuous. Leaving victims with long-lasting characterological and relational difficulties and the likelihood increases of being affected by a trauma-related disorder such as a dissociative disorder (Waite & Ryan, 2019). Additionally, there is one compelling type of complex trauma termed betrayal-trauma which occurs when people or institutions perpetuate traumatic acts on dependent individuals.

Betrayal-traumas in children frequently consist of loss of trust that damage primary caregiving relationships (Edmonds et al.,2016). ACEs are examples of traumatic or disruptive events that occur before a child reaches adulthood (Feuer-Edwards et al., 2016).

Effects of Trauma on Children

It has been acknowledged that the human brain is "the most complex three pounds in the universe" (Noble, 2014, p. 2). Several studies have found that the impact of trauma on children's developing brains are significant and manifest differently during each stage of their development (Felitti et al., 1998; Gaskill & Perry, 2014; Perry, 2002, 2006, 2007; Shonkoff et al., 2009; Violence Against Children, 2020). Trauma has the potential to affect all parts of the central nervous system however, some of the crucial structures directly affected by childhood trauma include the limbic system, midbrain, and cerebral cortex (Gaskill & Perry, 2014; Perry, 2002, 2006, & 2007; Shonkoff et al., 2009).

Child traumatic stress is defined by the National Child Traumatic Stress Network (NCTSN) as stress that "occurs when a child experiences an intense event that threatens or causes harm to his or her emotional and physical wellbeing" (NCTSN, n.d.). When a child is confronted with a threat, the limbic system which regulates functions such as emotion, heartbeat, physical balance, and the stress response is activated. During the stress response the body prepares to fight (aggressively tackling the basis of stress), flight (evading the stress), and/or freeze (shut down) (De Bellis & Zisk, 2014; Shonkoff et al., 2009). If trauma occurs during the development of this part of the brain, a child's stress response; ability to interpret social cues and language; ability to wake, sleep, breathe, and relax; and sexual behavior may be affected (Perry, 2002, 2007). During periods of complex trauma, if the midbrain is affected a child may experience problems with motor function, coordination, and spatial awareness. Finally, should

complex trauma occur during development of the cerebral cortex a child's ability to plan, problem solve, use language, and develop higher order thinking may be impacted (Perry, 2007; Teicher et al., 2010).

When a child experiences a real or a perceived threat the stress response can be retriggered. Should this occur on a continuous basis the child has the potential to exist in a state of constant disequilibrium (Wolpow et al., 2009). Complex traumatic events such as abuse, family violence, and neglect without sufficient or proper caregiver support can result in toxic stress which is chronic or uncontrollable in nature and can have an overwhelming effect on a child's brain development (Clervil & DeCandia, 2013). The child's body becomes primarily concerned with survival and self-preservation; learning, academic performance, and appropriate behavior will become of secondary importance (Perry, 2006). When children are in a constant state of disequilibrium or hyperarousal (constantly on guard) they may display behaviors in the classroom such as difficulty with self-regulation, attention, impulse control, and higher order thinking (Plumb et al., 2016; Waite & Ryan, 2019). Quite often, school staff attribute these behaviors to negative character traits in children which can lead to harsh and sometimes punitive responses on the part of school professionals, compounding their trauma and adding to their feelings of anger, sadness, and mistrust of adults (Day et al., 2015).

According to Bartlett and Sacks (2019) trauma is a possible outcome to exposure to ACEs. However, trauma affects each child differently, depending on his or her individual, family, and environmental risk, and protective factors (Bartlett & Sacks, 2019). Plumb et al. (2016) affirms that "a brain that is developed to survive, left without intervention, will be a brain that has difficulty learning in school" (p.40). Research shows that children exposed to ACEs may exhibit various behavioral, cognitive, physical, and social symptomology in the school setting

(Bartlett & Sacks, 2019; Felitti et al., 1998). They may often be referred to the school nurse or the school nurse may be invited to be a part of the child's interprofessional collaborative team. Some behavioral manifestations of children exposed to trauma may include: difficulty with critical brain functions such as focusing, learning, self-regulation, and decision-making (Department of Children and Families, [DCF], 2012). These behaviors may mimic the symptoms of attention deficit hyperactivity disorder [ADHD] although, in fact, it is the result of childhood trauma (Navsaria, 2007). Additionally, the child may display attachment difficulties, including being unable to trust others, empathize, regulate emotions, or manage stress. A child that has difficulty regulating emotions may present as withdrawn, expressing a flat affect, or experiencing angry outbursts. Furthermore, a child that is having difficulty regulating behavior may be viewed as being aggressive, over-sexualized, or self-injurious (DCF, 2012; Waite & Ryan, 2019).

Cognitive effects noted in children exposed to ACEs may manifest as language delays, IQ deficits, learning disabilities, inability to concentrate or complete assignments, inability to learn from experience, or difficulty preparing for events (DCF, 2012). As cited by Plumb et al. (2019) a study of 701 children by the Center for Youth Wellness (formerly the Bayview Health Clinic) found that a child with four or more ACEs was thirty-two times more likely to be labeled with a learning or behavior problem than a child with no ACEs (Scott et al., 2013). Children exposed to ACEs may also have more issues with positive self-concept due to their feelings of helplessness and decreased self-worth, even blaming themselves for the trauma that is being inflicted upon them (DCF, 2012).

Some of the physical manifestations experienced by children exposed to ACEs include asthma, attention deficit hyperactivity disorder, somatic complaints, and sleep disturbances (Oh et al., 2018; Oral et al., 2016). Toxic stress has also been linked to prolonged wound healing,

decreased antibody production after vaccination, and vulnerability to viral infections (Oral et al., 2016). Quite often students are introduced to the school nurse by self-referral or by referral by their teacher related to a physical complaint.

Children exposed to ACEs may also have difficulty with social development, including difficulty forming and keeping friendships and an inclination to engage in deleterious relationships or isolate themselves socially (DCF, 2012). It is imperative that children exposed to ACEs have access to healthy social support systems and nurturing relationships from adults to reduce both the biological effects of trauma and to promote positive cognitive and emotional processing for positive health and educational outcomes (Nurius et al., 2015).

Finally, there are also particular groups of children who are exposed to extreme stressful adverse events such as children in foster care, run away and homeless youth, lesbian/gay/bisexual/transgender/questioning youth, and youth in the juvenile justice system (Martin et al., 2017). These groups of children may be exposed to more types of violence to self as well as witness more family violence (Martin et al., 2017). Additionally, due to the prevalence of ACEs in the general population, researchers suggest that health care providers approach every patient as though they have a trauma history (Stokes et al., 2017). To illustrate the prevalence of societal ACEs a recent report estimated 3.9 million children were subjects of abuse accounts to child welfare organizations and approximately 700,000 cases were validated, contributing to a countrywide victimization rate of 9 per 1,000 children (US Department of Health and Human Services (US DHHS), 2015; Valentino, 2017). Thus, indicating that, over 90% of abused children are injured by one or both parents/caregivers (US DHHS, 2015; Valentino, 2017).

Trauma-Informed Care

It's easier to build strong children than repair broken men.

--Frederick Douglass, My Bondage and My Freedom

In response to the pervasiveness of ACEs and its potential for far reaching deleterious health and educational outcomes a systematic approach was deemed necessary to best address the traumatic events affecting students and other clients exposed to ACEs (Baker et al., 2016; Gubi et al., 2019; King et al., 2019). Trauma cannot be undone once it is experienced, it can only be ameliorated. As a result, of the prevalence of ACEs, in the 1990's a new term, trauma-informed care (TIC) was coined to describe "service delivery that integrates an understanding of the pervasive biological, psychological, and social sequelae of ACEs and trauma with the ultimate aim of ameliorating, rather than exacerbating, their effects" (Baker et al., 2016, p. 62). Within, the last ten years, there has been a call for service systems such as the educational, human services, health care, child welfare, law enforcement, and adult and juvenile correctional systems to implement TIC (Baker et al., 2016). Martin et al. (2017) described the implementation of trauma informed services for traumatized children as a "right" not a "luxury".

Trauma-informed care is based on Trauma Theory (Davis, 2021). The Substance Abuse and Mental Health Services Administration [SAMHSA], (2014) identifies four key TIC assumptions:

> A program, organization, or system that is trauma-informed *realizes* [emphasis added] the widespread impact of trauma and understands potential paths for recovery; *recognizes* [emphasis added] the signs and symptoms of trauma in clients, families, staff, and others involved with the system; and *responds* [emphasis added] by fully integrating knowledge

about trauma into policies, procedures, and practices, and seeks to actively *resist re-traumatization* [emphasis added]. (p. 9)

According to SAMHSA there needs to be clarification regarding trauma-informed terminologies. A trauma-informed approach is distinct from trauma-specific services. A trauma-informed approach is inclusive of trauma-specific interventions, whether assessment, treatment or recovery supports, while also incorporating key trauma principles into the organizational culture (SAMHSA, 2014).

SAMHSA (2014) acknowledges that in a TIC approach, all people at all levels of the organization or system need to have a basic realization about trauma and understand how trauma can affect individuals, families, groups, organizations, and communities. As shown in Table 1, SAMHSA (2014) TIC also includes adherence to six generalizable key principles.

Table 1

Six Key Principles of Trauma-informed Care

Key Principles	Description of the Principle
Safety	Promoting a sense of physical and psychological safety throughout the organization,
Trustworthiness	Operations and decisions are transparent toward building and maintaining trust within the organization.
Peer Support	Key supports in trauma recovery and healing include those individuals who have experienced traumatic events.
Collaboration	Collaborative and meaningful sharing of power and decision making.
Empowerment and choice	Understanding the history of diminished voice and eliminating power differentials toward supporting choice in goal setting.

Key Principles	Description of the Principle
Cultural/Historical/gender Issues	The organization actively rejects cultural stereotypes and biases and works to leverage access to appropriate connections as being responsive to the racial, ethnic, and cultural needs of those served.

Note. Retrieved from SAMHSA, 2014.

SAMHSA (2014) emphasizes that, "it is critical to promote the linkage to recovery and resilience for those individuals and families impacted by trauma" (p.10). Additionally, due to the prevalence of ACEs in the general population, researchers suggest that health care providers view every patient though a "lens of universal trauma- precautions" (Stokes et al., 2017, p. 2). Clinicians working through the lens of trauma-informed care do not assume that all clients are survivors or have been impacted by trauma. Instead, clinicians consider the possibility that clients may or may not have a history of trauma (Grybush, 2020).

A resiliency lens provides a framework for focusing on the positive, promotive, or protective factors that work in opposition to the risk factors associated with adverse experiences (Zimmerman, 2013). The Resiliency theory provides the conceptual framework for studying and understanding why some youth grow up to be healthy adults despite a history of traumatic experiences (Zimmerman, 2013). Zimmerman (2013) purports that some children have promotive factors that operate in opposition to risk factors, and help youth overcome the negative effects of ACEs. Two types of promotive factors were identified by Fergus and Zimmerman (2005) termed assets and resources. Intrinsic positive factors such as self-efficacy and self-esteem, are defined as assets. Resources refer to extrinsic factors such as parental support, adults' mentors, and youth programs that provide youth with opportunities to learn and practice skills. Assets and resources provide children with individual attributes for health development (Fergus & Zimmerman, 2005). Conversely, Oral et al. (2016) contends that TIC

primary interventions should focus on strengthening individual and community resilience. They affirm that instead of solely identifying and responding to individual ACEs that communities should be strengthened therefore, reducing resource inequities (Oral et al., 2016).

The Current Role of The School Nurse in Trauma-Informed Care

In the United States, 90 percent of students attend public schools; therefore, public schools are ideally positioned as excellent sites for implementation of trauma-informed care interventions (Chafouleas et al., 2016; National Center for Education Statistics, 2015). Subsequently, trauma-informed schools reflect a national movement to create educational environments that are responsive to the needs of trauma-exposed youth through the implementation of effective practices and systems-change strategies (Chafouleas et al., 2016; Cole et al., 2013). Hence, school nurses are in a unique position to address the physical, mental, emotional, and social health of students and to provide case management to students that have been exposed to ACEs. The school nurses' understanding of ACE prevalence and risk factors as well as being able to identify individuals who have experienced ACEs is a crucial element in a comprehensive approach to prevention (Oral et al., 2016). However, there remains a gap in research that conceptualizes the school nurse's knowledge of trauma-informed care practices.

School nurses can serve as a type of first line defense for students. As identified in the Framework for the 21st Century School Nurse Practice (NASN, 2016), the school nurse supports evidence-based practices and care coordination to provide an environment where students can be healthy, safe, and ready to learn. School nurses are in a unique position, because of their regular access to students, they can identify students with potential behavioral health concerns.

According to the NASN (2018) school nurses are professionally and ethically accountable to provide the following supports to the children they serve who may be experiencing maltreatment:

- know local laws, regulations, policies, and procedures for reporting
- know signs and potential indicators for child maltreatment
- provide clear nursing documentation/ using a body diagram if implicated
- provide with personal body safety education also advocate for body safety education policies
- educate staff regarding signs and symptoms of child maltreatment
- identify children with frequent somatic complaints
- provide support for victims of child maltreatment
- link victims and families to needed community resources
- collaborate with community organizations to raise awareness of child maltreatment

Furthermore, school nurses can serve as advocates, facilitators, and counselors of behavioral health services within the school environment and in the community." (NASN, 2018). Moreover, school nurses can provide a safe space for students which can serve as a protective factor for students who have experienced adversity. In short, school nurses can "empower families to identify and fulfill their needs by providing resources and referrals to agencies that will help meet life's basic demands" (Buffin, 2020, p. 2) thereby serving as an avenue of self-determination for these families.

In the seminal ACE study conducted by Felitti et al. (1998) it was indicated that exposure to ACEs can lead to risky health behaviors and poor health outcomes in a dose-dependent

manner. Many of the chronic diseases that children exhibit can be directly linked to childhood adversity. Children may be referred to the school nurse due to the symptoms of some chronic diseases such as asthma, attention deficit hyperactivity disorder, somatic complaints, and sleep disturbances (Oh et al., 2018; Oral et al., 2016). In a systematic review of 35 studies conducted to better understand pediatric health outcomes associated with adverse childhood experiences, three studies indicated that children exposed to childhood adversity had an increased risk for asthma, which is one of the most common chronic childhood diseases and the most commonly cited reasons that children are absent from school (Oh et al., 2018).

Additionally, six studies from the same systematic review demonstrated a correlation between childhood adversity and differences in cognitive ability which has implications for the large number of children diagnosed with ADHD (Oh et al., 2018). The school nurse's awareness of their knowledge of TIC can be instrumental for accurate identification, assessment, and implementation of intervention strategies for successful case management of students exposed to ACEs (Walkley & Cox, 2013). However, there is scant empirical and contextual research regarding the school nurse's role in TIC and no psychometric instrument to measure school nurse TIC knowledge (Stokes et al., 2017). Likewise, Baker et al. (2016) confirms that there is an "unclear operational definition of TIC and the shortage of psychometrically robust instruments to evaluate TIC" (p.63).

However, there is literature that addresses quality improvement and prevention components of the school nurse's role in TIC. Rau & Lytle (2020) discussed the role of the school nurse in increasing classroom instructional time using the Multi-Tiered Systems of Support for Behavior (MTSS-B) Model. This quality improvement project was conducted in Lincoln Public Schools, Nebraska. MTSS-B is a term used to describe an evidence- based model

that uses data-based problem solving to integrate academic, communication, and behavioral instruction and intervention (Charlton et al., 2018; Lincoln Public Schools, n.d.). The MTSS-B approach supports students that are struggling with social and emotional concerns, by implementing a culture of positivity (Lincoln Public Schools, n.d.; Swenson et al., 2017). This proactive culture encouraged a positive environment in the nursing office, nurturing relationships and consistent expectations for students and staff which lead to a decrease in health office visits (Rau & Lytle, 2020).

The MTSS-B framework is divided into three tiers of support for students. Tier 1 include interventions that are universal and are intended for all students and staff. Tier 2 interventions include more formal check-ins with the school nurse or support from other school resource staff including the school counselor. Tier 3 interventions are even more intense, assessment based, and can also include multidisciplinary approach depending on the student need (Lincoln Public Schools, n.d.). The outcome from this quality improvement project revealed reductions in health office visits with a 4.1% decrease in districtwide visits one-year postimplementation of the project. The decrease in extraneous office visits provided school nurses the opportunity to provide improved TIC to students that were experiencing social and emotional issues as well as increase student in class instructional time (Rau & Lytle, 2020).

Similarly, the Link for Schools Program provides school nurses with structured interventions that assist them to address childhood adversity and provides tools for listening or responding to a traumatized student with a focus on the principles of trauma-informed care (Immerfall & Ramirez, 2018). The Link for Schools Program also uses a systemized approach to trauma response by providing two layers of support for children both with universal Tier 1 and selected Tier 2 interventions. At Tier 1, all school staff are trained in TIC and the impact of

trauma on student behaviors. The training is composed of a video and discussion opportunity for the school staff. This is followed by Tier 2 which includes intense motivational interviewing and psychological first aid training for selected staff that can include school nurses as well as counselors, administrators, and other school personnel willing to be trained (Immerfall & Ramirez, 2018). In addition, the two tiers require open communication and coordination so that students are monitored through process of identification, screening, and referral. School nurses play a key role in Link for Schools and may coordinate with a school counselor, administrator, and/or parent/guardian. As a result, this program enhances the capacity of schools to address social and behavioral concerns by building resiliency through the support of trusted, committed adults at school (Immerfall & Ramirez, 2018). The coordination and collaboration of services and resources in the Link for Schools Program incorporates theoretical components of the WSCC model and Bronfenbrenner's ecological theory.

The Link for Schools Program was originally conceptualized as a secondary or tertiary prevention program to help lower stress, build resilience, and improve connectedness after a child's stressful life experience. Two of the application tools that Link for Schools use are psychological first aid [PFA], and elements of motivational interviewing [MI] (Immerfall & Ramirez, 2018). Psychological First Aid addresses basic needs and reduces psychological distress by providing a caring comforting presence and education on common stress reactions. It empowers the individual by supporting strengths and encouraging existing coping skills (Minnesota Department of Health, n.d.). Next, motivational interviewing, which is a "person-centered" open-ended communication style that leads to positive behavior change (Miller & Rollnick, 2004). MI elicits "change talk" by focusing on empathy, understanding, and reflection; avoiding disagreement; and supporting the student's belief that he or she can be successful in

engaging in behavior change (Miller & Rollnick, 2004; SAMSHA-HRSA Center for Integrated Health Solutions, n.d.).

Conversely, the Momentous School, a laboratory school in Dallas, Texas, is one example of a school with a thriving social and emotional learning student support program. Its primary goal is to break the cycle of poverty and child abuse within families (Plumb et al., 2016). The Momentous model focuses on current social and emotional learning practices and current brain biology research. The school utilizes a holistic approach to education that includes trauma-informed social-emotional principles. It also includes vigorous training for faculty and administration, as well as family counseling and parent education (Plumb et al., 2016). However, the Momentous Institute does not indicate school nurse involvement in their program implementation.

Impact of Experiences, Education and Training, Confidence, Current and Desired Roles, and Perceived Barriers on School Nurses Knowledge of TIC

School nurses are an integral part of the school workforce and because of their regular access to students, are ideally positioned to identify students with potential behavioral health concerns. However, there remains scant literature that supports the knowledge, preparedness, or capability of schools or school professionals to systematically implement a TIC framework (Perry & Daniels, 2016). To successfully implement TIC in schools a school workforce is required that is knowledgeable about trauma and its impact on development, and can employ skills and strategies that prevent, reduce, and ameliorate its effect on children. Without such knowledge and training, school personnel may not identify or understand the connection between a child's presentation, behaviors, and symptoms and exposure to trauma (Chafouleas et al., 2016).

Similarly, research of TIC knowledge in general nursing practice is also limited. In a qualitative study by Stokes et al. (2017) the researchers explored nurses understanding and experiences with TIC. The researchers stated that although the participants were not familiar with the term trauma-informed care, their understanding of providing trauma-sensitive care to clients was synonymous with the concept of caring in nursing. The participants maintained that nursing care includes applying holistic care while cultivating therapeutic relationships which are fundamentals of TIC (Stokes et al., 2017).

More recently, in a study by King et al. (2019) the researchers aimed to validate a tool to assess knowledge, attitude, and practice of trauma-informed care among interdisciplinary pediatric healthcare staff. After obtaining permission from the author, the researchers adapted and modified a 36-item survey tool, "Knowledge, Attitudes, and Practices of Trauma-Informed Practice,". Following validation of the tool, the results of this study indicated that healthcare professionals and organizations are in a unique position to improve the health and well-being of their patients by implementing a trauma-informed approach to minimize the impact of ACEs and trauma. Thus, with the help of the new validated measurement tool organizations will be able to identify gaps in knowledge, attitude, and practice among staff to subsequently begin developing pointed strategies to achieve a culture of trauma-informed practice (King et al., 2019).

Similarly, an exhaustive review of the literature identified a lack of previous study of school nurse trauma-informed care knowledge (TIC) practices in school health. Investigation of available TIC knowledge measurement tools in schools led to discovery of a tool developed for measuring TIC knowledge in school psychologists, the School Psychology Trauma Training Survey (Gubi et al., 2019). This proposed study will use this existing school psychologist trauma-

informed care measurement tool that will be adapted into a tool to measure school nurse trauma-informed care knowledge in school health practice.

Therefore, this current study is an important first step toward better understanding the school nurses perceived preparedness to work with children exposed to childhood adversity. The purpose of this study is to explore school nurses' knowledge, experiences, and role of the school nurse in trauma-informed care in school health practice. A descriptive, correlational research design will be used to conduct this study. Data from this study will begin the process of better capturing the current understanding of TIC within the field of school nursing by examining the following questions: (a) experiences-what type of traumatic events do school nurses encounter when working with children and teachers in their schools? (b) education-what level of education do school nurses' typically have (ADN, BSN), what types of formal or informal trauma informed training have they had? (c) confidence- is critical for role engagement in trauma informed care. What specific modes of service do school nurses report feeling the most- and the least- confident and competent providing (assessment, interventions, referrals), (d) current and desired roles- what are the most desired roles of school nurses in trauma-informed service delivery within school settings? (e) perceived barriers- what are the perceived barriers to school nurses providing trauma-informed services in school settings?

Summary

In summary, due to the pervasiveness of ACEs in society it is considered a public health epidemic. The American Academy of Pediatrics [AAP] (2014) "Trauma Toolbox for Primary Care" endorsed the need for organizations that serve children to incorporate TIC into their practice to help ameliorate the deleterious effects of ACEs. Since children traditionally spend approximately 32 hours a week in school, schools are ideal locations for TIC implementation.

Consequently, school nurses as the only healthcare personnel in schools, are ideally positioned to influence the trajectory of ACEs and its long-term impacts on student health and educational outcomes. Bronfenbrenner's' Ecological Systems theory informs this study because it seeks to provide understanding of how multiple levels of influence impact children's interactions and behaviors within the context of the school setting. The WSCC model demonstrates how coordination of school services provide supportive resources to student, the student's family, the school nurse, the school, and community resources can influence optimal student health and educational outcomes. However, there is a lack of research regarding school nurse TIC knowledge, experiences, and role in school health practice. Measurement of school nurse's knowledge of TIC in school health practice can serve as a valuable starting point for development of creative interventional strategies that can impact school nurse TIC practice self-efficacy with the potential to decrease future healthcare costs and improve student health and educational outcomes.

CHAPTER III: METHODOLOGY

The purpose of this study was to explore the knowledge, experiences, and role of the school nurse in trauma-informed care in school health practice. A descriptive, correlational research design was used to conduct this study. In this chapter, the methodology for the study was described and is divided into six sections. The first section provides a description of the participants, the second section provides a description of the sampling strategies, the third section provides detail on data collection procedures, the fourth section provides detail on the instrumentation, the fifth section describes the research design and the research questions, the sixth section will provide an overview of the data analysis procedure, and the final section summarizes the chapter.

Description of Participants

Participants in this study were selected from a purposive homogenous population sample of school nurses practicing in public and private schools located throughout the state of North Carolina. The sampling frame was the list serve from the School Nurses Association of North Carolina (SNANC). Participants were also included from snowball sampling. Inclusion criteria required that participants be currently practicing as a school nurse with a current school assignment. School nurses serving in an administrative position or lead role were eligible to participate if they currently had a school assignment or provided direct care to children as part of their workload. Exclusion criteria include those school nurses who were no longer in practice and those school nurses functioning in administrative positions only. A minimal sample size of 235 participants was used for the study sample. The sample size was determined by the Raosoft survey sample calculator (Raosoft, 2004). The Raosoft survey sample calculator utilized margin of error, confidence level and response distribution to estimate sample size (Raosoft, 2004).

Sampling Strategy

The sampling method included a purposive sample of current active members of the SNANC. Snowball sampling was also used as an additional recruitment strategy to encourage SNANC members to forward the online survey link to other school nurses who were not current members of SNANC. Additionally, informational letters were emailed, and phone calls were made to the North Carolina state school nurse consultant, who then forwarded the email to the regional school nurse consultants, informing them of the study and asking them to forward emails encouraging the school nurses in their regions to participate in completing the survey. The online survey method was chosen because online surveys offer an avenue for cost effective data collection and analysis (Timmins, 2015).

Data Collection

All protocols for the study were evaluated and approved by the East Carolina University Institutional Review Board (IRB) prior to the start of data collection (see Appendix A). Data collection for the study began on October 1, 2021 and was completed by December 15, 2021. The participants were supplied with an electronic informational letter via Research Electronic Data Capture (RedCap) which is a web-based application approved for HIPAA and FERPA use, that stores data on a secure server. The informational letter informed participants of the purpose of the research and provided informed consent to participants prior to data collection (see Appendix B). All demographic information was de-identified. Participants in the study were informed that participation was voluntary, and they were assured that their responses would remain anonymous and confidential.

Prior to data collection permission was obtained from SNANC to place an electronic link with a recruitment and informational letter on their website (see Appendix C). This electronic link also provided participants with an explanation of the risks and benefits of participating in the study. The electronic survey link asked school nurses to verify their voluntary consent to participate in the study and then allowed them access to the survey. The school nurses were asked to click YES if they agreed to participate in the study. If they clicked YES, the first page of the survey would become visible. If the school nurse clicked NO, they were thanked for their consideration and then the webpage closed. After the survey was completed, the site thanked the participant for participating in the study, inactivated the link and then closed. The school nurse answers were then saved to a secure server on RedCap and then later downloaded to an analysis program. The survey was originally planned to be available for two months with one reminder email sent out to participants by the NC state nurse consultant. However, to increase the sample size n=168, the PI obtained permission from SNANC to attend the Annual School Nurse Conference, in Shelby, NC, where an additional 45 participants were recruited.

After completion of the survey the participant was allowed to enter a drawing to win one of (10) 50 US dollar electronic Amazon gift cards. The participants were provided the following instructions "to be entered in the drawing for one of (10) $50 electronic gift cards to Amazon, please provide your name and email contact information. This information will only be used for contacting you if you win. After the drawing, all contact information will be deleted and no longer associated with your survey answers. The Principal Investigator for this study will contact you by email if you win a gift card". The PI used an online random number picker wheel to select the winners (Number Picker Wheel, 2021). To ensure the protection of human research participants, the research proposal for this study was submitted to the Institutional review board

(IRB) at East Carolina University. Funding for the gift cards was provided by a grant from the East Carolina University, College of Nursing, Beta Nu Nursing Honor Society.

Instrumentation

The survey instrument used in the data collection for this study was adapted from a tool developed for measuring TIC knowledge in school psychologists (see Appendix D), the School Psychology Trauma Training Survey [SPTTS] (Gubi et al., 2019). The developers of this tool were contacted, and approval was given to adapt the tool for use with school nurses (private communication, see Appendix E). In developing the new adapted survey instrument, general scale development guidelines outlined by DeVellis (2003) and Furr (2011), and guidance from an expert in instrumentation development and a school nurse researcher was followed prior to study implementation. All survey data will be obtained through participants self-report.

The original SPTTS survey included investigator-generated items targeting school psychologists' experiences, education and training, confidence and competence, current and desired roles, and perceived barriers related to trauma-informed school services, as well as items from the Attitudes Related to Trauma-Informed Care (ARTIC) scale (Gubi et al., 2019) to address perceived supports. During the expert panel review phase of the study respondents were asked to provide qualitative feedback regarding the content validity and clarity of the items. Based on the feedback from the expert review panel the researchers removed approximately 10 experimenter-generated items, added two items to improve content coverage and reworded almost all the experimenter-generated items for clarity and precision based on feedback from respondents (Gubi et al. 2019).

The final version of the original SPTTS survey instrument (See Appendix D) included items that covered the following areas and associated number of items in each construct:

experiences (1 item); education and training (4 items); confidence and competence (10 items, including 5 items related to mandated reporting of child maltreatment); current and desired roles (3 items); perceived barriers and support (12 items, including 10 from the ARTIC Personal and System-wide Support for Trauma-Informed Care subscales); and demographic and professional information (17 items). According to the original SPTTS research authors, the internal consistency estimates were unable to be calculated due to negative intercorrelations among items and consequent negative average covariance, which violated reliability model assumptions (Gubi et al., 2019). The researchers suggested that the bipolar nature of the scale, the small sample size, and/or the high percentage of "N/A" responses that were recoded as missing data (24.76%) may have impacted these outcomes (Gubi et al., 2019).

The initial edits to the original SPTTS survey included changes to the question-and-answer format to make sure that all questions and answers were written the same i.e., all answers given at the end of each question or questions were written on the right and answers on the left. Also, if a description was given for one option, then descriptions were given of all options. Questions that were specifically related to school psychology testing/assessments and interventions were deleted (see Appendix D, pp. 10-15). The questions that asked had the school psychologists worked directly with or consulted with teachers/caregivers about a student who experienced specific ACEs at some point during their childhood (before 18 years old was changed from a yes/no question to a question with a scale to see which ACEs are commonly seen in the school setting (see Appendix D, pp. 7-9). The question that asked, "I feel adequately prepared to deliver the following services in a school setting" was changed from a check all that apply to a yes/no answer choice (see Appendix D, p. 12). The question that asked " I believe that school psychologists should be involved in the following activities related to trauma-informed

care" was changed from a check all that apply question to a yes/no answer choice which would indicate activities that were thought to be most important for school nurses to be involved in (see Appendix D, p.13). The question that asked, "Do you consider the following to be significant barriers to providing trauma-informed care in the schools?" was changed from a yes/no answer choice to a ranking answer choice which would demonstrate an understanding of what barriers are seen as most important to school nurses (Appendix D, p. 16).

After making the above modifications to the SPTTS the modified instrument (see Appendix E) was submitted to an expert panel of 6 school nurses, all with at least 10 years of school nurse experience. The expert panel was informed that the adapted instrument was based on the following descriptions for trauma, ACEs, trauma-informed and TIC. Trauma can occur when a child or adolescent experiences or is exposed to an adverse childhood experience (ACE) which causes harm to his or her emotional and/or physical well-being. ACEs can come in many forms and include events such as exposure to a disaster such as a hurricane or flood or to events such as maltreatment, witnessing violence or loss of a loved one, parental divorce, or sexual abuse. A "trauma-informed" perspective acknowledges that trauma may be related to such problems as substance abuse, classroom disruption, truancy, ADHD, frequent health complaints, or other disruptive behavior. Trauma-informed care referred to a school's culture, practices, and policies that recognizes and addresses the learning needs of students impacted by trauma.

Based on the expert panel feedback (see Table 2), the PI and the instrument development expert reworded questions for conciseness and used different question formatting for ease of answer choice selection. Instead of limiting the nurse's time frame to the past year for a few questions, the questions were reworded to ask, "How many students do you typically see in a school year who had experienced the following at some point in their childhood". The question

"How much confidence do you have in delivering the following services in your school setting?" was changed from a yes/no answer choice to a Likert scale asking if the school nurse was not confident, somewhat confident, or confident. The questions that originally asked about the school nurses' thoughts regarding school nurse involvement and the frequency of involvement in trauma-informed care activities was originally a yes/no answer choice however, it was changed to a Likert scale. These questions were reworded to reduce redundancy and allowed the question "I am currently involved in the following activities related to trauma-informed care at my school" to be deleted. The question that addressed school nurse barriers to trauma-informed care which was flagged as a confusing question (see Table 2) by more than one expert was changed from a ranking answer format to a Likert scale answer format. Three questions were also added to improve content coverage (1) I believe that trauma informed care should be an essential focus in all schools, (2) how many schools are you assigned? and (3) how many total students are in your school assignment? The final PI adapted School Nurses Knowledge of Trauma-informed Care in School Health Practice Survey is presented (see Appendix F*)*.

The final version of the survey instrument includes 62 items that cover the following areas: training and experience (6 items); frequency of ACE occurrence in students (17 items); TIC confidence (3 items); current and desired TIC roles (14 items); perceived barriers (10 items); demographic and professional information (11 items), and one open-ended item asking respondents to identify any other barriers or limitations that could limit their ability to provide TIC to their students. The estimated time to complete the survey will be 15-20 minutes.

Table 2

Feedback on School Nurse Knowledge of Trauma-Informed Care in Practice Survey

Survey Feedback Questions	Expert Panel Feedback
Were the instructions easy to understand? a. What would have made instructions easier to understand?	All stated the instructions were easy to understand. One respondent stated instructions were lengthy.
How long did it take you to complete the survey?	Five respondents stated 15-20 minutes One respondent stated it took 40 minutes.
Were there any questions that were confusing? a. If so, what questions were confusing? Please provide details?	Six respondents referred to page 9's question regarding Barrier's to trauma informed care. Two respondents stated that the question was confusing- suggested to use the word compare instead of rank. Four respondents stated that that question was difficult to answer because of the 10 choices and wordiness of the question.
Were selection choices easy to understand? a. What would have made them easier to understand?	Three respondent stated yes, one stated somewhat-in reference to the Barriers to Trauma informed care question Refer to #3
Demographic questions and options met my background and needs? If not, what recommendations do you have for the demographic questions?	All six respondents stated yes. None.
Other suggestions?	Survey too detailed. One respondent suggested to use fewer choices 1-5 instead of 1-10. Re-word question about barriers.

Note. Expert panel consisted of six respondents.

Research Design

A descriptive, correlational research design was used for the study of the exploration of the knowledge, experiences, and role of the school nurse in trauma-informed care in school health practice. This design was used to describe relationships among the independent and dependent variables rather than to infer causality (Polit & Beck, 2017).

Research Questions

The overarching research question for this study is what is the school nurse's knowledge, experience, and role in trauma-informed care in school health practice. The specific research questions examined in this study were:

RQ 1: What are the characteristics of the school nurse study sample regarding (1) demographics, (2) work setting, (3) formal and informal training in delivering TIC, (4) types and frequency of ACE experiences and (5) the types of TIC activities they are currently involved with in school settings?

RQ 2: What specific modes of service delivery (assessment, intervention, consultation) do school nurses report feeling the most- and the least- confident providing?

RQ 3: What is the relationship between school nurse TIC practices and, 1) demographics, 2) TIC training, 3) confidence in providing TIC, 4) types of ACEs observed in the students, and 5) work environment characteristics?

RQ 4: What TIC activities do school nurses believe they should be involved with and what barriers to provision of TIC are in school settings?

See Table 3, which documents my research questions in the left column with the corresponding survey items that aligns with each question located in the right column.

Table 3

The School Nurses Knowledge of Trauma-Informed Care (TIC) in School Health Practice Survey

Research Question	Aligning Survey Item
What are the characteristics of the school nurse study sample with regard to:	
(1) demographics	7 items, pp. 8-10
(2) work setting	4 items, page 9
(3) formal and informal training	4 items, page 1
(4) types and frequency of ACE experiences	17 items, pp. 3-4
(5) types of TIC activities currently involved in.	7 items, page 7
What specific modes of service delivery do school nurses report feeling the most and the least confident providing?	
(1) assessment	1 item, page 5
(2) intervention	1 item, page 5
(3) consultation	1 item, page 5
What is the relationship between the school nurse's ability to implement TIC activities and:	
(1) nurse demographics	7 items, pp. 8-10
(2) TIC training	4 items, page 1
(3) confidence in providing TIC	3 items, page 5
(4) types of ACEs observed	17 items, pp. 3-4
(5) work environment	4 items, page 9
What TIC activities do school nurses believe they should be involved with and what barriers to provision of TIC are in school settings?	7 items, page 6 11 items, page 8

Note. ACEs= Adverse Childhood Experiences

Data Analysis

The Statistical Package for the Social Sciences (version 26) was used to analyze the data. All data were screened for missing data and out-of-range values. Descriptive statistics, including frequency distribution, means, and standard deviation, was used to analyze the characteristics of the participants in the study and the participants responses to the TIC survey items. The SPSS TwoStep Cluster procedure was used to identify subgroups of school nurses based on their

overall involvement with seven TIC school-related activities. Relationships between TIC involvement groups and nurse demographics, TIC training, confidence in providing TIC, type of adverse childhood experiences observed in the students, and work environment was conducted with crosstabulation tables and the chi-square test for independence. All tests of significance was evaluated with p values < .05**.**

Summary

This chapter has described the methodology, including participants, sampling procedures, data collection procedures and instrumentation. Additionally, the research design, research questions, and data analysis have been described in order to explain the process by which the independent variables were examined for their relationships between the implementation and non-implementation of TIC activities in the school and nurse demographics, TIC training, TIC experience, confidence in providing TIC, type of adverse childhood experiences observed in the students, and work environment.

CHAPTER IV: RESULTS

The purpose of this study was to explore the knowledge, experiences, and role of the school nurse in trauma-informed care in school health practice. This chapter contains the results of the statistical analyses of the data to answer four research questions. The four research questions examined were: (1) What are the characteristics of the school nurse study sample regarding (1) demographics, (2) work setting, (3) formal and informal training in delivering TIC, (4) types and frequency of ACE experiences and (5) the types of TIC activities they are currently involved with in school settings? (2) What specific modes of service delivery (assessment, intervention, consultation) do school nurses report feeling the most- and the least- confident providing? (3) What is the relationship between school nurse TIC practices and, 1) demographics, 2) TIC training, 3) confidence in providing TIC, 4) types of ACEs observed in the students, and 5) work environment characteristics? (4) What TIC activities do school nurses believe they should be involved with and what barriers to provision of TIC are in school settings? A summary of the findings by each specific research question is presented.

Data Analysis

A purposive homogenous population sample of 168 practicing school nurses in public and private schools located throughout the state of North Carolina was recruited over the initial 2-month period provided to access the online School Nurse Knowledge of Trauma-Informed Care in School Health Practice Survey. Participants were recruited through an electronic link that was posted on the School Nurses Association of North Carolina (SNANC) website and via snowball sampling. Snowball sampling was achieved through a statement on the SNANC website informational letter which asked school nurses to encourage other school nurse colleagues to also take the survey.

During the first month of the survey 132 school nurses accessed the survey. This was followed up by a monthly reminder that was sent out from the North Carolina Lead School Nurse Consultant to all regional school nurse consultants which was then emailed to local lead nurses and then finally to their local school nurses. After, the reminder there was an increase of 36 additional participants. I also presented at a local school nurse staff meeting to recruit additional participants as well as, communicated via email and by phone with other local lead school nurses to encourage their school nurse staff to complete the survey. However, due to the increase in school nurse workload related to COVID- 19 duties, there was a need to extend recruitment for two additional weeks to increase the school nurse's window of opportunity to access the online survey and to allow me to reach the calculated 235 minimal sample size as calculated by Raosoft. This extension provided me the opportunity to travel to the Annual School Nurse Association of North Carolina conference in Shelby, NC. There, I had the opportunity to set up a booth and recruit an additional 45 school nurses to take the online School Nurse Knowledge of Trauma-Informed Care in School Health Practice Survey.

A final total of 213 participants accessed the online survey; however, after review of the surveys, 18 did not agree to give consent and 30 did not provide complete responses to the survey questions, which left n=165 that met the inclusion criteria and provided complete responses. Inclusion criteria required that participants be: (1) currently practicing as a school nurse with a current school assignment, (2) school nurses serving in an administrative position or lead role were eligible to participate if they currently had a school assignment or provided direct care to children as part of their workload. Although the minimal sample size was not obtained the sample population of this study was very representative there were nurses from small to large schools in number of students, nurses assigned from 1 to 4 or more schools, nurses from urban,

suburban, and rural schools, and nurses with little or no training/experience in TIC to more TIC experienced nurses.

Analysis of Question 1

What are the characteristics of the school nurse study sample regarding (1) demographics, (2) work setting, (3) formal and informal training in delivering TIC, (4) types and frequency of ACE experiences and (5) the types of TIC activities they are currently involved with in school settings?

Participant Demographics

Demographic data was collected to describe the characteristics of the study participants. Frequencies and percentages of the demographic variables are provided in Table 4. Demographic data indicated that of the 165 school nurses who completed the survey, 157 (95.2 %) were employed full time. The majority of the school nurses had earned a BSN (*n*=115; 69.7%), while (*n*=47; 16.4%) had earned a MSN. Also, as shown in Table 4, most of the participants had been school nurses for 2-10 years or greater (*n*=134; 81.2%), and more than half of school nurses had either acquired or were awaiting their National Council of School Nurse Certification (*n*=100; 60.6%). Also as indicated in Table 4, the majority of school nurses identified as White (*n*=149; 90.3%).

Table 4

Demographic Characteristics of Study Participants

Characteristic	n	%
Ethnicity		
White	149	90.3
Black	7	4.2
Other	8	4.8
Missing	1	<1.0
Highest degree in nursing		
ADN	18	10.9
BSN	115	69.7
MSN	47	16.4
Other	4	2.4
Missing	1	<1.0
Work status		
Full time	157	95.2
Part time	4	2.4
Other	4	2.4
School nurse experience		
1 year or less	31	18.8
2-5 years	52	31.5
6-10 years	28	17.0
>10 years	54	32.7
National Council of School Nurse Certification		
Yes/pending	100	60.6
No	61	37.0
Other	4	2.4

Note. N = 165.

Work Setting

As shown in Table 5, over half of the school nurses were employed in rural schools (*n*= 87; 52.7%), with the next largest group being employed in a suburban school setting (*n*=54; 32.7%). The majority of the school nurses (*n*=138; 83.6%) were assigned to cover 1-2 schools. It is notable that a significant number of school nurses (*n*=67; 40.6 %) served student populations of greater than 901 students. Table 5 also shows that the majority of the school nurses were assigned to Elementary schools (*n*=118; 71.5%) and Middle schools (*n*=83; 50.3%).

Table 5

Work Setting Characteristics of Study Participants

Characteristic	n	%
Number of schools assigned		
1	81	49.1
2	57	34.5
3	9	5.5
4+	13	7.9
Missing	5	3.0
Number of students in school assignment		
<300	11	6.7
301 – 500	22	13.3
501 – 700	34	20.6
701 – 900	29	17.9
901+	67	40.6
Missing	2	1.2
Grade levels in school assignment [a]		
Pre – kindergarten	59	35.8
Elementary	118	71.5
Middle school / junior high	83	50.3
High school	62	37.6

Table 5

Work Setting Characteristics of Study Participants

Characteristic	n	%
Geographical setting of assigned schools		
Urban	22	13.3
Suburban	54	32.7
Rural	87	52.7
Other	1	<1.0

Note. N = 165.

[a] Percentages don't add up to 100 because some nurses have assignment in multiple grade levels.

Formal and Informal Training in Delivering TIC

As shown in Table 6, with regard to school nurses formal and informal training in delivering TIC, over half of the school nurses (*n*=102; 61.8%) indicated that they rated themselves as having adequate knowledge and training in TIC. Fifty-five school nurses (33.3 %) indicated that they rated themselves as having minimal knowledge and training in TIC. Only six school nurses (3.6%) saw themselves as an expert in TIC knowledge and training. Also, in Table 6, of the *n*=165 school nurses 143 responded that they had had formal education in TIC through continuing education (*n*= 127; 77.0%) and supervised practicums (*n*= 16; 9.7%). Table 6 also shows, that over half of the school nurses reported that they gained TIC knowledge and training via informal formats such as on the job training (*n*=95; 57.6%) and reading/self-study (*n*=80; 48.5%).Although, the majority of responses from the school nurses indicated that they had not received TIC training (*n*= 114; 69.1%) during their pre-licensure programs they strongly agreed (*n*=102; 61.8%) that TIC education should be included in nursing pre-licensure curriculums. Frequencies and percentages are reported in Table 6.

Table 6

Characteristics of Trauma Informed Care (TIC) Knowledge and Training in Study Participants

Characteristic	n	%
Rating of TIC knowledge and training		
None	2	1.2
Minimal	55	33.3
Adequate	102	61.8
Expert	6	3.6
Rating of ability to assess and intervene in TIC		
None	5	3.0
Minimal	82	49.7
Adequate	68	41.2
Expert	9	5.5
Missing	1	<1.0
Sources of training in TIC [a]		
Continuing education	127	77.0
On-the-job training	95	57.6
Reading/self-study	80	48.5
Supervised practicum	16	9.7
Other	9	5.5
Was TIC provided in your pre-licensure program?		
Yes	20	12.1
No	114	69.1
Not sure	31	18.8
Do you believe TIC should be available in all pre-licensure programs?		
Strongly agree	102	61.8
Agree	57	34.5
Undecided	6	3.6

Note. N = 165. TIC = Trauma Informed Care

[a] Percentages don't add up to 100 because some nurses have multiple sources of training.

Types and Frequency of Potential Traumatic Events Identified in Students

Table 7 shows potential traumatic events and the estimated number of students experiencing the traumas during a typical school year as reported by the school nurse participants. The traumas are rank ordered by the frequency of occurrence, from most frequent to least frequent. The overall number of students in the 165 school nurse assignments was estimated as 122,425. The most frequently observed trauma involved 1,893 students who had parents separated or divorced, while the least frequent trauma involved 383 students who had a parent or caregiver deported. The traumas that occurred in at least 1,000 students included separation/divorce, mental illness in the household, substance abuse in the household, emotional neglect and emotional abuse, incarceration of a family member, having a parent who had a serious medical issue, illness, or was hospitalized, and physical neglect of the child. Traumas that occurred in at least 500 children included experiencing community violence, affected by a natural disaster, had a parent deployed, had a mother who was treated violently, and who experienced a death of a parent. The least frequent traumas included witnessing a serious injury or death of a person and the deportation of a parent. The overall prevalence of a student experiencing a trauma was 13 percent.

Table 7

Estimated Number of Students Identified with Potentially Traumatic Events

Traumatic event	n
Had parents who were ever separated or divorced	1893
Had mental illness in their household	1369
Had substance abuse within their household	1284
Experienced emotional neglect	1234
Experienced emotional abuse	1208
Had a family member who was incarcerated	1100

Table 7

Estimated Number of Students Identified with Potentially Traumatic Events

Traumatic event	n
Had a parent who had a serious medical issue, illness, or was hospitalized	1043
Experienced physical neglect	1035
Lived and/or went to school in a place affected by community violence	891
Was affected by a natural disaster	810
Had a parent/caregiver who was deployed	794
Had a mother who was treated violently	749
Experienced physical abuse	742
Had a parent/caregiver who died	698
Experienced sexual abuse	468
Witnessed the serious injury or death of another person	455
Had a parent/caregiver who was deported	383

Note. Total number of school nurses = 165. Estimated total number of students in the nurse's assignment = 122,425. Estimated total number of these students identified by the nurses with a potential traumatic event = 16,156. The percentage of students with a nurse identified potential traumatic event in the total number of students in the nurse's assignment = 13.0%.

Types of TIC Activities School Nurses are Currently Involved In

The final characteristic analyzed in the school nurse sample group was the types of TIC activities that school nurses were currently involved with in the school setting. Table 8, shows the frequencies of TIC activities that school nurses felt they should be involved in when working with students and which activities they are currently involved in. Over half of the school nurses reported that they were sometimes involved in screening for trauma exposure (*n*= 92; 55.8%) and providing case management, referrals, or served as a coordinator with outside agencies or providers (*n*=84; 50.9%). There was a low proportion of school nurses that reported current frequent involvement in any TIC activities, with the majority of school nurses reporting no current involvement in TIC activities, see Table 8.

Table 8

Frequency of School Nurses Involvement with TIC

Activity	None		Sometimes		Frequent		Missing	
	n	%	n	%	n	%	n	%
Screening for trauma exposure	56	33.9	92	55.8	15	9.1	2	1.2
Conducting formal assessments for trauma related conditions	101	61.2	56	33.9	7	4.2	1	<1.0
Recommending trauma-related interventions for students	70	42.4	80	48.5	12	7.3	3	1.8
Delivering direct trauma-related interventions to students	97	58.8	57	34.5	7	4.2	4	4.2
Designing and implementing trauma-informed systemwide practices	135	81.8	26	15.8	3	1.3	1	<1.0
Training teachers and staff on the impact of trauma on students	134	81.2	26	15.8	3	1.8	2	1.8
Providing case management, referrals, or serving as a coordinator with outside agencies or providers	65	39.4	84	50.9	15	9.1	1	<1.0

Note. N = 165. TIC = Trauma Informed Care

Analysis of Question 2

What specific modes of service delivery (assessment, intervention, consultation) do school nurses report feeling the most- and the least- confident providing?

As shown in Table 9, with regard to school nurse feelings of most and least confidence while providing specific modes of TIC, of the 165 school nurses 164 responded to their confidence in providing assessment and interventions services in school. The respondents reported feeling somewhat confident (*n*=88; 53.3%) to confident (*n*=19; 11.5%) about providing

trauma-related assessment including interviews, observations, and testing to students. School nurses also indicated feeling somewhat confident (*n*=72; 43.6%) to confident (*n*=27; 16.4%) in providing trauma-related consultation including working with teachers, staff, and administration. However, school nurses indicated feeling least confident (*n*=91; 55.2%) about providing trauma-related interventions including counseling and behavioral interventions to students. Frequencies and percentages are reported in Table 9.

Table 9

Level of Confidence in Ability to Deliver Trauma-Related Services in a School Setting

Trauma-Related Service	Not Confident		Somewhat Confident		Confident		Missing	
	n	%	n	%	n	%	n	%
Trauma-related assessment including interviews, observations, and testing	57	34.5	88	53.3	19	11.5	1	<1.0
Trauma-related intervention including counseling and behavioral interventions	91	55.2	59	35.8	14	8.5	1	<1.0
Trauma-related consultation including working with teachers, staff, and administrators	66	40.0	72	43.6	27	16.4		

Analysis of Question 3

What is the relationship between school nurse TIC practices and, 1) demographics, 2) TIC training, 3) confidence in providing TIC, 4) types of ACEs observed in the students, and 5) work environment characteristics?

Table 10 shows the variables with the largest percentage differences between the school nurses with no/some involvement with TIC school–related practices and the school nurses with some/frequent involvement with TIC school–related practices. Of the 158 nurses with complete

data, 101 (63.9%) had mostly no involvement with TIC activities in their schools, while 57 (36.1%) had some/frequent involvement in TIC activities in their schools. The average of no TIC involvement was 78.1% with the seven TIC practices in the low involvement group, while the overall average of some/frequent involvement in the involved group was 80.4%. There were no significant differences between the two involvement groups on any of the demographic variables, work environment characteristics, or on the types and frequency of ACEs observed by the nurses. However, there were differences in the training and confidence in using TIC among the nurses in the two TIC involvement groups. Although not quite statistically significant ($p = .072$), the percentage of nurses reporting adequate/expert knowledge in the low involvement group was 59.4% compared to 73.4% in the some/frequent involved group. All the other comparisons were significantly lower in the low involvement group compared to the some/frequent involvement group. The largest differences were seen in the proportion of nurses with adequate/expert training in TIC service delivery, with 39.6% in the low involvement group reporting adequate/expert knowledge compared to 69.6% in the higher involvement group, and the proportion of nurses with higher levels of confidence in providing trauma-related interventions, 29% of nurses in the low involvement group and 75.4% of nurses in the higher involvement group.

Table 10

Relationship of School Nurse TIC Practice Involvement with TIC Training and TIC Confidence

	Low involvement		Involvement			
TIC training and confidence	n	%	n	%	χ^2 (1)	p
Training (adequate/expert)						
Knowledge	60	59.4	42	73.7	3.25	.072

Table 10

Relationship of School Nurse TIC Practice Involvement with TIC Training and TIC Confidence

	Low involvement		Involvement			
TIC training and confidence	n	%	n	%	χ^2 (1)	p
Service delivery	37	36.6	39	69.6	15.72	<.001
On the job TIC training	51	50.5	40	70.2	5.78	.016
Confidence (somewhat/confident)						
Trauma-related assessment	54	53.5	50	87.7	19.00	<.001
Trauma-related intervention	29	29.0	43	75.4	31.43	<.001
Trauma-related consultation	52	51.5	45	78.9	11.59	.001

Note. TIC = Trauma Informed Care. Nurses with no/some TIC practice involvement n = 101. Nurses with some/frequent TIC practice involvement n = 57. The average percent of no involvement for the seven TIC practices was 78.1%, and the average percent of some/frequent involvement for the seven TIC practices was 80.4%.

Analysis of Question 4

What TIC activities do school nurses believe they should be involved with and what barriers to provision of TIC are in school settings?

As shown in Table 11, the majority of school nurses agreed that screening for trauma exposure (*n*=132; 80%), case management (*n*=125; 75.8%), recommending trauma-related interventions (*n*=120; 72.7%), and conducting formal assessments for trauma (*n*=115; 69.7) were the main TIC activities that school nurses should be involved with. However, (*n*=75:45.5%) of school nurses were unsure or disagreed regarding if they should be involved in delivering direct trauma-related interventions to students.

Table 11

Level of Agreement on TIC Activities that School Nurses Should be Involved With

Activity	Agree		Unsure		Disagree		Missing	
	n	%	n	%	n	%	n	%
Screening for trauma exposure	132	80.0	25	15.2	7	4.2	1	<1.0
Conducting formal assessments for trauma related conditions	115	69.7	36	21.8	13	7.9	1	<1.0
Recommending trauma-related interventions for students	120	72.7	34	20.6	10	6.1	1	<1.0
Delivering direct trauma-related interventions to students	89	53.9	49	29.7	26	15.8	1	<1.0
Designing and implementing trauma-informed systemwide practices	94	57.0	51	30.9	17	10.3	1	<1.0
Training teachers and staff on the impact of trauma on students	99	60.0	36	21.8	29	17.6	1	<1.0
Providing case management, referrals, or serving as a coordinator with outside agencies or providers	125	75.8	27	16.4	13	7.9	1	<1.0

Note. N = 165. TIC = Trauma Informed Care

The majority of school nurses in school settings indicated that the most significant barriers to implementing TIC in school settings included insufficient time to engage in TIC (*n*=88; 55.3%), insufficient number of school mental health professionals (*n*= 84; 50.9) and competing priorities that take precedence over TIC (*n*=66; 40%), see Table 7. Several school nurses also indicated that difficulty identifying children with exposure to trauma (*n*=74; 44.8%) and lack of training in TIC (*n*=71; 43%) were also significant barriers to providing TIC to

students. Also, as shown in Table 12, school nurses felt that the most insignificant barrier to implementation of TIC was that TIC was not considered an appropriate school role (*n*=44; 26.7%).

Table 12

Significance of Barriers to Implementing Trauma-Informed Care

Barrier	Very Significant		Significant		Unsure		Not Significant		Missing	
	n	%	n	%	n	%	n	%	n	%
Difficulty identifying children with exposure to trauma	12	7.3	74	44.8	41	24.8	33	20.0	5	3.0
Insufficient number of school mental health professionals	84	50.9	50	30.3	17	10.3	11	6.7	3	1.8
Insufficient time to engage in TIC	88	55.3	50	30.3	18	10.9	7	4.2	2	4.2
Lack of training in TIC	56	33.9	71	43.0	26	15.8	11	6.7	1	<1.0
Difficulty getting cooperation and consent for providing TIC	31	18.8	52	31.5	65	39.4	15	9.1	2	1.2
Lack of coordinated services between schools and community	40	24.2	59	35.8	51	30.9	14	8.5	1	<1.0
Lack of funding for providing TIC	57	34.5	49	29.7	55	33.3	2	1.2	2	1.2
Competing priorities take precedence over TIC	66	40.0	58	35.2	35	21.2	5	3.0	1	<1.0
TIC not considered an appropriate school role	24	14.5	47	28.5	49	29.7	44	26.7	1	<1.0
Behavioral difficulties viewed as “discipline issue” rather than mental health issue	52	31.5	53	32.1	41	24.8	17	10.3	2	1.2

Summary

The purpose of this study was to explore the knowledge, experiences, and role of the school nurse in trauma-informed care in school health practice. An analysis of the demographics revealed that the majority of the 165 school nurse participants were White, had earned a BSN as their highest degree, were nationally certified, worked full time, and had more than five years of school nurse experience. Most of the school nurse participants also were assigned one or two elementary or middle schools as their primary assignment with over 700 students in a rural setting.

Over 60 percent of the school nurse participants felt that they had adequate knowledge of trauma=informed care while only 41% felt they had an adequate ability to assess and intervene in trauma-informed care. The school nurse participants reported that their main source of trauma-informed care training was from continuing education programs (77%) and on-the-job training (57.6%). Only 12 percent of the school nurse participants reported that trauma-informed care had been a part of their pre-licensure training while 95% of the school nurse participants agreed that such training should be provided in pre-licensure programs.

The overall number of students in the 165 school nurse assignments were estimated to be 122,425. The estimated total number of students identified by the school nurse participants with a potential traumatic event were 16,156 or 13%. The most frequently observed trauma involved 1,893 students who had parents who separated or divorced, while the least frequent trauma involved 383 students who had a parent or caregiver deported. Furthermore, less than half of the school nurse participants (46.7%) reported that they had adequate or expert ability to assess and intervene in TIC.

Of the 158 nurses with complete data, 101 (63.9%) had mostly no involvement with TIC activities in their schools, while 57 (36.1%) had some/frequent involvement in TIC activities in their schools. The average of no TIC involvement was 78.1% with the seven TIC practices in the low involvement group, while the overall average of some/frequent involvement in the involved group was 80.4%. There were no significant differences between the two involvement groups on any of the demographic variables, work environment characteristics, or on the types and frequency of ACEs observed by the nurses. However, there were differences in the training and confidence in using TIC among the nurses in the two TIC involvement groups. Although not quite statistically significant ($p = .072$), the percentage of nurses reporting adequate/expert knowledge in the low involvement group was 59.4% compared to 73.4% in the some/frequent involved group. All the other comparisons were significantly lower in the low involvement group compared to the some/frequent involvement group.

Additionally, the majority of school nurses agreed that screening for trauma exposure (*n*=132; 80%), case management (*n*=125; 75.8%), recommending trauma-related interventions (*n*=120; 72.7%), and conducting formal assessments for trauma (*n*=115; 69.7) were the main TIC activities that school nurses should be involved with. However, (45.5%) of school nurses were unsure or disagreed regarding if they should be involved in delivering direct trauma-related interventions to students.

Finally, the majority of school nurses in school settings indicated that the most significant barriers to implementing TIC in school settings included insufficient time to engage in TIC (*n*=88; 55.3%), insufficient number of school mental health professionals (*n*= 84; 50.9) and competing priorities that take precedence over TIC activities (*n*=66; 40%).

CHAPTER V: DISCUSSION

Discussion and Conclusions

The discussion section of the study highlights the relationship of my results to previous literature, implications of the findings, limitations, recommendations for future research, and conclusions regarding my findings.

Diversity of School Nurses

Analysis of the demographic data indicated a lack of diversity in the school nurse participants who responded to the online survey. The majority of participants 90.3 %, identified as White and 4.2% identified as Black. This data is consistent with the most recent national data from the National Association of School Nurses, 2018, where 86.9% of US school nurses identified as White and 4.8% identified as Black (Willgerodt et al., 2018). However, as the United States ethnic demographics shift this call for a shift in diversity in school nurse demographics as well. The 2015-16 school year was the first in which the majority of public-school children were minorities (Riser-Kositsky, 2019). According to the U.S. Census report for 2020 the U.S. largest ethnic groups are White (Non-Hispanic) 57.8%, Hispanics is 18.7%, and Black (Non-Hispanics) are 12.1% in the population. The demographics of the students in public schools in NC (NCDPI, n.d.) identify as White (47.9%), Black (25.2%), and Hispanic (17.9%). Notably, demographics of students in Charter and Regional schools in NC (NCDPI, n.d.) are comparable to public school's student demographics, White students (55.4%), Black students (25.6%), and Hispanic students (10%). These changing demographics suggests that school nurse demographics should also change in order to meet the diverse healthcare needs of the students they serve. The majority of participants in this study had earned a BSN (69.7%) as their highest degree in nursing. The sample population in this study with a BSN degree as their highest earned

nursing degree had a higher percentage rate than the national average which is 51.3% (Willgerodt et al., 2018).

The study participants were overwhelmingly employed full time (95.2%) and the majority worked in a rural setting (52.7%). The participants in my study demonstrated a higher rate of full-time employment compared to the national average which indicated that 60.8 % of school nurses are employed full time (Willgerodt et al., 2018). Also, this data is consistent with data related to students who attend rural schools according to Showalter et al. (2019), approximately half of all rural students in the U.S. attend school in just 10 states, Texas with the largest number of rural students, followed by North Carolina. This study also indicated that the majority of the school nurses were employed in elementary and middle schools as their primary assignment, which is consistent with the national average of where full-time nurses are employed, school nurses in elementary schools (62.4%) and (24.7%) in secondary schools (Willgerodt et al., 2018). Accordingly, the National Association of School Nurses recommendation is that school nurses be employed full time and be baccalaureate prepared (Willgerodt et al., 2018). Also, the majority of school nurse participants in this study had achieved their certification in school nursing which represents a national standard of excellence in preparation, knowledge, and practice in school nursing (NASN, 2022).

Formal and Informal Training in Delivering Trauma-Informed Care

One of the goals of this novel study was to explore the school nurse's knowledge related to TIC in school health practice. This study indicated that over 60 percent of the school nurse participants felt that they had adequate knowledge of trauma-informed care while only 41percent felt they had an adequate ability to assess and intervene in trauma-informed care. Although, there is limited research related to school nurse TIC training, because they are positioned in schools,

they are exposed to training with other school personnel. As schools are increasingly being called upon to address the impact of childhood trauma exposure on behavior and learning school nurses may be included in this training (Gubi et al., 2018; Bethell et al., 2017). Also, federal mandates such as the Every Student Succeeds Act in 2015 (U.S. Department of Education Office of Safe and Healthy Students,2017) have also been put in place to encourage adoption of trauma-informed practices in schools. Additionally, the school nurse participants reported that their main source of trauma-informed care training was from continuing education programs and on-the-job training, which is consistent with findings by Choi and Seng (2015) and Ding et al. (2016). Only, twelve percent of the school nurse participants stated that they had had trauma-informed training during their pre-licensure programs. However, 95% felt it should be a required training in pre-licensure programs. In a study by Li et al. (2019) it was found that undergraduate and graduate nursing programs lag behind the other health sciences such as, psychology, psychiatry, and social work in providing education on TIC practices.

Types and Frequency of Potential Traumatic Events Identified in Students

The prevalence of ACEs is well documented. Studies show that approximately 49 to 61 percent of children in America have experienced at least one ACE (ACEs, 2020; Bethell et al., 2017; Felitti et al., 1998; Merrick et al.2018), and nationally, 1 in 10 children have experienced three or more (Sacks & Murphey, 2019; Steele et al., 2016). According to Healthy North Carolina 2030, almost 1 in 4 children in North Carolina has experienced two or more ACEs, including 18% of children ages 0-5.

The findings in this study indicate that the overall prevalence of a student experiencing a trauma as reported by the school nurse participants was 13 percent. Of the estimated 16,156 students identified by the school nurses with a potential traumatic event the types of trauma most

commonly seen in their students included 4,687 personal traumas, which are things done by a parent/caregiver to their child such as emotional and physical abuse, neglect, and sexual abuse, 5, 560 parent/caregiver traumas, which are traumas derived from something that has happened to a parent/caregiver that affects the child such as a separation or divorce or serious medical issue of a parent/caregiver, 3,753 home/family member traumas, which are traumas related to family members that affect the child such as substance abuse, mental health issues or mother being treated violently and 2,156 (other) traumas, such as community violence or a natural disaster such as a pandemic. This study's findings validate the need to make the use of TIC approaches a priority in school nurse practice as well as school settings in general. School nurses have an opportunity to interact with students in a non-threatening role daily. Which allows for the development of intentional, supportive relationship building which can be beneficial to children who has been exposed to traumatic experiences (Fergus & Zimmerman, 2005).

Types of TIC Activities School Nurses are Currently Involved in Within School Settings

Over half of the school nurse participants reported that the most common TIC activities they were involved in were participating in screening for trauma exposure and providing case management and recommending trauma-related interventions for students. While previous literature on this topic is not extensive, there are relevant data that demonstrate the capacity for school nurses to make substantial contributions to students through these activities.

One of the programs that school nurses participate in related to providing TIC to students are the Link for Schools Program which provides school nurses with structured interventions that assist them in addressing childhood adversity and provides tools for listening or responding to a traumatized student with a focus on the principles of trauma-informed care (Immerfall & Ramirez, 2018). Another program the Multi-Tiered Systems of Support for Behavior (MTSS-B)

Model, positioned school nurses as central figures in providing TIC activities/supports that include quality improvement related to development of a positive environment in the nurse's office that welcomes students. This model is evidenced-based and supports students that are struggling with social and emotional concerns, by implementing a culture of positivity (Lincoln Public Schools, n.d.; Swenson et al., 2017). This proactive culture encouraged nurturing relationships and consistent expectations for students and staff which lead to a decrease in health office visits (Rau & Lytle, 2020).

Over half of the school nurse participants reported that the most common TIC activities, they were involved in, were participating in screening for trauma exposure, providing case management, and recommending trauma-related interventions for students. However, participants reported that they felt most confident in their ability to provide TIC assessment and consultation services to students and the least confident in their ability to provide trauma-related interventions such as counseling and behavioral interventions which are areas that school nurses could benefit from additional TIC training.

According to the NASN's Framework for 21st Century School Nursing Practice, which" provides structure and focus for the key principles and components of current day, evidence-based school nursing practice" case management is a central component of care coordination in the provision of care to students (ASCD & CDC, 2014, p.2). This framework also encompasses screening, referral, and follow-up, which are skills that all fall within the scope of school nurse practice. The Framework for 21st Century School Nursing Practice is also aligned with the Whole School, Whole Community, Whole Child Model which calls for a collaborative approach to learning and health and underpins this study (ASCD & CDC, 2014). The majority (45.5%) of school nurse participants felt unsure or disagreed if they should be involved in delivering direct

TIC interventions to students. Bronfenbrenner's ecological systems theory can inform school nurse practice by assisting the school nurse to identify factors at different levels (the individual, the interpersonal, the community and societal) that contribute to poor overall health outcomes and helps the school nurse to develop appropriate interventions for improved health and educational outcomes (CDC, 2015.Srivastav et al., 2020).

The majority of school nurse participants indicated that the most significant barriers to implementing TIC in school settings included insufficient time to engage in TIC (55.3%), insufficient number of school mental health professionals (50.9%) and competing priorities that take precedence over TIC practices (40%). While there is no previous research related to school nurses and barriers related to implementing TIC, there has been research in schools with teachers and other school personnel with similar barriers implicated. Martin et al. (2017) described several barriers related to schools and teachers including competing responsibilities, problems engaging parents, especially if the language about trauma-informed care feels threatening: and stigma regarding mental health concerns.

Finally, findings from the study regarding the relationship between school nurse, demographics, TIC training, confidence in providing TIC, types of ACEs observed in the students, and work environment characteristics indicates no statistically significant correlations between the variables. The school nurse participant groups were divided into two TIC involvement groups the low involvement group and the some/frequent involved group. There were no significant differences noted between the two involvement groups on any of the demographic variables, work environment characteristics, or on the types and frequency of ACEs observed by the nurses. However, there were differences in the training and confidence in using TIC among the nurses in the two TIC involvement groups. These findings indicate that school

nurses with more TIC training have more confidence in their ability to provide TIC interventions and are more likely to participate in TIC activities in the school setting.

Implications of the Findings

While this study adds to the body of research regarding trauma-informed care in schools, no studies had previously explored school nurse knowledge, experiences, and role in trauma-informed care in school nursing practice. According to this study 41.2% of the participants reported that they had adequate ability to assess and intervene in TIC and nine school nurses (5.5%) reported that they were expert in their ability to assess and intervene in TIC activities. These nurses also implied that they currently do quite a bit of TIC work at their respective schools. This subgroup also reported having stronger beliefs in the TIC activities that they should be involved with than the nurses with less confidence and less TIC work. This indicates that 52.7% of the school nurse participants reported that they had minimal to no ability to assess and intervene in TIC activities.

These findings suggest that school nurse can benefit from additional professional development opportunities in TIC approaches. Which also has further implications for school administrators and their understanding and support of the school nurse's role in TIC practices. Also, more undergraduate, and graduate nursing programs need to incorporate TIC training into their programs in order to prepare nurses to provide more effective, social, and emotional patient support. Studies show that educating healthcare providers on trauma and the core assumptions and key principles of TIC has been shown to improve provider knowledge, attitudes, and skills (AAP, 2014; Choi and Seng, 2015; Ding et al., 2016).

The results from this study also have implications for school nurses to assess their own ACE scores. With the prevalence of ACEs nurses can also be affected. Foli et al. (2020) suggests

that nurses are subject to trauma that have both interpersonal and organizational components. Recent research describe a type of trauma that is specifically affects nurses termed "*insufficient resource trauma* caused by a lack of resources and staff needed to render quality, safe care" (Foli et al., 2020, p. 86).

Additionally, research indicates that ACEs increases the risk for chronic disease, much higher risk of depression, higher rates of risky health behaviors like smoking and heavy drinking as well as cognitive and behavioral challenges (Bartlett & Sacks, 2019; Felitti et al., 1998; Nurius et al., 2015; Plumb et al., 2016; Waite & Ryan, 2019) which has implications for school nurse practice. The results of this study has inference as a valuable starting point for development of TIC educational and creative interventional strategies that can impact school nurse TIC practice self-efficacy with the far-reaching potential to decrease future healthcare costs and improve student health and educational outcomes.

Furthermore, the results of this study has implications regarding recruitment of a more diverse school nurse workforce. This study indicated that 90.3% of school nurses that serve the students in NC identified as White, and 4.2% identified as Black. However, the 2015-16 school year was the first in which the majority of public-school children were minorities (Riser-Kositsky, 2019). Research acknowledges that to meet the health care needs of a racially and ethnically diverse society, the nursing workforce should mirror the nation's racial composition (Brooks et al., 2022). Also, the findings from this study reaffirms the need for additional allocation of funds to hire more school nurses so that every child can have daily access to a full-time baccalaureate prepared school nurse (NASN, 2018). The findings from this study indicate that approximately 47.9% of the school nurse participants were assigned to 2 or more schools. According to NASN (2018) data regarding school nurse employment in public and private

schools in the United States 35.3% of schools employ part-time school nurses and 25.2% of schools did not employ a school nurse at all (Willgerodt et al.).

Finally, the results from this study also have implications for continued, system, state, and federal change regarding trauma-informed care training in schools. The findings in this study indicate that there were an estimated total of 16,156 students who were identified by the school nurses with exposure to a potential traumatic event. The overall prevalence of a student experiencing a trauma as reported by the school nurse participants was 13 percent. These results imply that although schools are implementing trauma-informed care practices which target resiliency building and reduction in traumatic symptoms (O'Neill et al., 2021) into their settings there is still much to be done at the community and family levels to effect change. Certain counties in North Carolina including Pitt, Cabarrus, Caldwell, Chatham, Edgecombe, New Hanover, and Wilson who identified a great need for TIC community support are currently, a part of a collaborative effort with the Center for Child & Family Health (CCFH) which was founded by Duke University, North Carolina Central University, and the University of North Carolina at Chapel Hill (Center for Child and Family Health, 2022). CCFH works at the intersection of academic research, evidence-based practice, and community impact. Through the CCFH families are equipped to create safe, nurturing environments for their children (Center for Child and Family Health, 2022). Additionally, the Trauma-Informed Schools Act of 2019 is a bill introduced into the House of Representatives that provides for the use of trauma-informed care practices in public elementary and secondary schools and allows states to use certain federal funds to train teachers and other staff in these practices (Congress.gov, 2019). The funding from this Act can help to provide TIC training for not only teachers but for other staff such as school nurses who care for children in the school setting.

Limitations

The major limitations of the study included sampling bias, social desirability bias and recall bias, issues with getting my online survey link posted on the SNANC website, and the increased stress to the study participants that may have been related to the pandemic.

Sampling bias could have occurred because the study sample included only school nurses from the state of North Carolina and from the state's school nurses association. This may have affected the generalizability of the study because other states may have different state nurse practice acts, licensure and certification requirements, and local school district regulations which may impact the school nurses' level of care that can be provided (Willgerodt & Yonkaitis, 2021). Also, another sampling bias limitation may have been related to regional differences regarding the types of ACEs that were identified in children by the school nurse participants. For example, school nurses that were assigned to schools in areas that had large military bases would possibly work with more children who had parents who were deployed, or school nurses assigned to schools along coastal areas may work with children who may be more affected by hurricanes/natural disasters. However, the sample population of this study was very representative there were nurses from small to large schools in number of students, nurses assigned from 1 to 4 or more schools, nurses from urban, suburban, and rural schools, and nurses with little or no training/experience in TIC to more TIC experienced nurses.

Additionally, other limitations of this study included social desirability bias and recall bias due to questions from the survey that asked school nurses for their self-reported perceptions of how many students they typically see in a school year that had experienced ACEs and the types of ACEs that they saw as well as how involved were they in TIC activities in their schools. The possibility of social desirability bias and recall bias during self-report can affect the internal

validity of research (Salazar et al., 2015). However, to limit the threat of social desirability bias for this study the online secure server RedCap included in bold print the words confidential on each survey page and the instructions on the survey shares with respondents that their responses would remain confidential, and findings would be reported as group summaries (Salazar et al., 2015). Also, in an attempt to limit recall bias, the PI included questions with high salience and low frequency in the survey (Salazar et al., 2015).

Another limitation was issues related to getting the survey link posted to the SNANC website homepage by the start date of the study. I had reached out months prior to the start of the survey to contact the president of the school nurse association (for consent to post the link), however the executive board was in the process of changeover to a new president, so that delayed communication regarding my request. The survey link was posted to the SNANC website but not to the homepage by the start of the survey, which delayed school nurses who were not members of SNANC access to the survey. This may have indicated that there was a breakdown in communication/process protocol related to the timing of my request. However, although there were difficulties in advertising my study to potential participants, I ended up with a representative sample that included nurses from small to large schools in number of students, nurses assigned from 1 to 4 or more schools, nurses from urban, suburban, and rural schools, and nurses with little or no training/experience in TIC to more TIC experienced nurses.

Finally, an unanticipated limitation of this study was that it was conducted during the COVID-19 pandemic. Schools were open, and if a student or staff had any signs or symptom of COVID the school nurse had to intervene with COVID testing and then start the process of contact tracing which greatly hindered the day-to-day processes of the school nurses. According to NASN (2021) school nurses in their role as holistic clinical experts during the pandemic

expanded this role to include 89% who conducted contact tracing, 77% who engaged with students regarding mental health concerns, and 76% who connected students and families with food, medical care, transportation, and other needs. The additional stress related to the pandemic along with the increased duties of school nurses may have limited their time to access my online survey. Consequently, I was not able to reach my minimal sample size. However, I was able to reach out in other ways such as speaking to school nurses through guest visits virtually at staff meetings to discuss my research and recruit participants as well as attending the in person annual state school nurse conference to recruit additional participants which also included online guests whom I was able to share my survey link with as well.

Recommendations for Future Research

The results of this study indicate a critical need for future research into trauma-informed care in schools with an emphasis on the school nurse's role. As the only health care expert in schools, school nurses are ideally positioned to be effective, knowledgeable members of the trauma-informed care team. Qualitative research methods as well as mixed method research could more deeply explore the school nurse's attitudes including possible underlying biases related to providing trauma-informed care in schools.

Additionally, future research could focus on school nurses own personal trauma experiences. Due to the prevalence of ACEs in society (Bethell et al., 2017; Felitti,1998), school nurses are not exempt from their perilous effects. Research has shown a relationship between ACEs and job-related problems and stressors, especially among people in helping professions such as nursing (Anda et al., 2004). Exploring school nurse's own personal ACE history can decrease the possibility of burnout and help to ensure that they feel supported (Aykanian & Mammah, 2022) as health care providers and members of the trauma-informed care team.

Also, future research could focus on modification of barriers that delay or prevent the school nurse's implementation of TIC practices. Martin et al. (2017) asserts that despite the barriers faced in incorporating a trauma-informed approach into schools, outcome evaluations of trauma-informed approaches within schools have shown many positive benefits for students, teachers, and schools such as decrease in trauma symptoms and improvement in classroom behaviors.

Finally, future research could focus on development of a sustainable interprofessional collaborative framework, underpinned by Bronfenbrenner's ecological systems theory. In keeping with one of the guiding theories behind this study, Bronfenbrenner ecological systems theory identifies a comprehensive list of factors that contribute to poor health and seeks to develop a broad approach to health problems that involves actions at many levels to produce and reinforce transformative change (CDC, 2015a; Danielson & Saxena, 2019). An interprofessional collaborative approach would call for professionals such as the school nurse, social worker, school counselor, primary care provider, teacher, parent/caregivers, and a community support liaison to assess, plan, set goals and evaluate interventional strategies for children who have been exposed to ACEs to promote lasting, transformative, upstream change.

Conclusions

Research on trauma-informed approaches in schools remain relatively new, and research focusing on the school nurse in relation to trauma-informed practice is non-existent. Currently, the NASN does not have a Position Statement regarding the role of the school nurse in TIC. However, school nurses are in an ideal position to be involved in prevention, early identification, reporting, and treatment interventions related to children exposed to trauma (NASN, 2018).

This study sought to address this critical gap in the research through exploring the knowledge, experiences, and role of the school nurse in trauma-informed care in school health practice. The major findings from this study indicate that school nurses interact with significant numbers of children who are exposed to ACEs in a typical school year. The traumatic events that school nurse participants reported that children are most often exposed to are parent separation or divorce, mental illness in the household, substance abuse in the household, emotional abuse/neglect, a family member incarcerated, a serious parental health issue, and physical neglect. This finding indicate that school nurses need more professional development and training related to providing TIC. This study also highlighted that the majority of school nurses feel that they have minimal to no ability to assess or intervene in TIC activities. Additionally, the findings from this study indicate that school nurses feel most confident performing TIC activities that involve screening, case management and recommendation of trauma-related interventions and the least confident performing TIC related interventions such as counseling and behavior management. Finally, school nurses feel that the most significant barriers to performing TIC in schools were insufficient time, not enough mental health professionals available and competing priorities.

One major implication from this study is that all nurses need TIC education to be a part of their pre-licensure curriculum, in order to prepare them for the far-reaching effects of ACEs. Concurrently, another implication is that all school nurses need continuing TIC education to prepare them to meet the substantive needs of students who may present to them with exposure to ACEs. This study showcased the prevalence of ACEs in schools, demonstrating that in a typical school year that an estimated total of 13% of students were identified by the school nurse participants in their school assignments as experiencing a potential traumatic event. School

nurses approaching all student interactions as though they were exposed to trauma is a necessity in order to provide holistic, student-centered care. It has been recommended that schools have an organized system in place to screen and/or identify trauma and treat and/or refer students if needed (Gubi et al., 2019). School nurses as the only health care professional in schools with the potential to be in daily contact with students are in a critical position to create awareness, influence action, and provide leadership in TIC (NASN, 2022).

In the glaring need for ACEs to be addressed by the state of North Carolina, school nurses added their voices and signatures with other public health entities to sign a petition to include ACES and trauma-informed practices as a health topic to Healthy People 2030 (Cogan, 2018). Healthy People 2030 is a set of health goals that are released every 10 years through the North Carolina Department of Health and Human Services [NC DHHS]. These 10-year target areas are designed to guide state efforts to improve health and well-being through collaborative efforts between the Division of Public Health, local health departments, and other partners across the state (North Carolina Institute of Medicine, 2020). ACEs is now listed as health indicator five under Healthy NC 2030's Social and Environmental factors. According to Healthy NC 2030 1 in 4 children in NC has experienced two or more ACEs, including 18% of children ages 0-5 (North Carolina Institute of Medicine, 2020).

In conclusion, findings from the original ACE Study were pivotal indicating that" ACEs are a central determinant of the health and social well-being of the nation" (Waite & Ryan, 2019, p. 8). Studies have shown that ACEs contributes to most major chronic health, mental health, economic health, and social health issues, even being a root cause of most violence (Stevens, 2019). Could school nurse involvement in TIC interventions possibly be an untapped valuable resource? School nurse attainment of trauma-informed care knowledge through additional

training is essential to help meet the needs of our children. School nurses as well as, all stakeholders in schools are being called to action to meet this crucial need. There needs to be not only systemic change but societal change, childhood trauma has been referred to as an epidemic, could trauma-informed care possibly be the vaccine?

Finally, these words from the United Nations International Children's Emergency Fund [UNICEF] capture the true essence of this study and the potential far-reaching influences of trauma-informed care in children's lives:

> Childhood is the time for children to be in school and at play, to grow strong and confident with the love and encouragement of their family and an extended community of caring adults. It is much more than merely the time between birth and adulthood; it should be a treasured time where children can live "free from fear, safe from violence, and protected from abuse and exploitation" (2005, para. 1)

School nurses provide a unique skill set and are uniquely positioned to advocate and intervene for the population of school-aged youth experiencing ACEs.

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APPENDIX A: IRB APPROVAL LETTER

EAST CAROLINA UNIVERSITY
University & Medical Center Institutional Review Board
4N-64 Brody Medical Sciences 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: Lesha Rouse
CC: Shannon Powell
Date: 9/21/2021
Re: UMCIRB 20-002524
What is the School Nurse's Role in Trauma-Informed Care?

I am pleased to inform you that your research submission has been certified as exempt on 9/19/2021. This study is eligible for Exempt Certification under category # 2c.

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
Dear SNANC Info letter(0.02)	Recruitment Documents/Scripts
Rouse_Dissertation Proposal_Chapters1_3(0.01)	Study Protocol or Grant Application
Trauma- Informed Infoletter(0.02)	Recruitment Documents/Scripts
Trauma- Informed_survey_consent form_revised(0.02)	Consent Forms
Trauma_Informed_Survey_Infoletter(0.02)	Consent Forms
What is the School Nurse's Knowledge of Trauma-Informed Care in School Health Practice(0.01)	Surveys and Questionnaires

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 INFORMATIONAL LETTER

Trauma_Informed_Survey_Informational_Letter _ Research Study

You are being invited to participate in a research study titled "What is the School Nurse's Knowledge of Trauma-Informed Care in School Health Practice" being conducted by Lesha Rouse, a PhD student at East Carolina University in the College of Nursing department. This research study focuses on school nurses training and experiences related to trauma-informed care in school health practice.

I will be conducting a statewide online survey of school nurses, for my dissertation study, to provide a better understanding of the current role of the school nurse in providing trauma-informed care to students who have been exposed to Adverse Childhood Experiences (ACEs). This research study will begin on October 1st and continue through November 30th of 2021. **The link for the survey is located on the SNANC home webpage**.

As a former NC school nurse, I have worked with students impacted by trauma. I personally know the prevalence of trauma among children and that school nurses are engaged with students exposed to ACEs daily. School nurses' input will provide crucial information on how the school nurse is currently involved in trauma-informed care in schools and will influence future development of school-based trauma informed programs.

This survey should take approximately 15-20 minutes to complete, and its findings will make a positive difference.

Each school nurse who completes the survey will also have an opportunity to enter a drawing to win a $50 Amazon gift card (10 available). **The data obtained from this survey will be confidential, and no identifying information will be obtained** for purposes other than to allocate drawing awards. If you have any questions or concerns, please contact me at the number or email address below.

Your time and input are highly valued, and I greatly appreciate all your help and support- **also please encourage other school nurses that you know to take this survey.**

I would love to share the results of my study with you if you are interested. Please email me with a request (rousel10@students.ecu.edu), and I will send you the results after its completion so you can see how your participation made a difference! If you have any questions, please let me know. Thank you for your time and attention.

Sincerely,

Lesha Rouse, MSN, RN

(252) 902-5544- cell

rousel10@students.ecu.edu

APPENDIX C: SNANC PERMISSION LETTER

Dear SNANC_ Research Study

My name is Lesha Rouse, I am a PhD student at East Carolina University (College of Nursing) my research study will focus on the examination of school nurse's knowledge, experiences and role when providing trauma-informed care in school health practice.

I will be conducting a statewide online survey of school nurses, for my dissertation research study, to provide a better understanding of the current role of the school nurse in providing trauma-informed care to students who have been exposed to Adverse Childhood Experiences (ACEs). This research study will begin on October 1st and continue through November 30th of 2021.

As a former NC school nurse, I have worked with students impacted by trauma. I personally know the prevalence of trauma among children and that school nurses are engaged with students exposed to ACEs daily. School nurses' input will provide crucial information on how the school nurse is currently involved in trauma-informed care in our schools.

The information obtained from this survey will demonstrate how the school nurse can be an integral force in the future development of school-based trauma informed programs which address the needs of students impacted by trauma.

This survey should take approximately 15-20 minutes to complete, and its findings will make a positive difference.

Each school nurse who completes the survey will also have an opportunity to enter a drawing to win a $50 electronic Amazon gift card (10 available). The data obtained from this survey will be confidential, and no identifying information will be obtained for purposes other than to allocate drawing awards.

My request is to ask if SNANC will post a link for my survey with an informational letter on your site to assist me in obtaining this valuable information? I appreciate your time and attention.

Sincerely,

Lesha Rouse, MSN, RN

(252) 902-5544- cell

rousel10@students.ecu.edu

APPENDIX D: SPTTS ORIGINAL SURVEY
(Original Survey Received from the Authors on 10/19/2020)

SP Trauma Training – Revised- Qualtrics Version

Start of Block: Consent and ID info

consenttext ONLINE CONSENT FORM: You are being asked to participate in the research project described below. Your participation in this study is entirely voluntary and you may refuse to participate, or you may decide to stop your participation at any time. Should you refuse to participate in the study or should you withdraw your consent and stop participation in the study, your decision will involve no penalty or loss of benefits to which you may be otherwise entitled. You are being asked to read the information below carefully and ask questions about anything you don't understand before deciding whether or not to participate.

Title: School Psychology Trauma Training Survey Principal Investigators: Julia Englund Strait, PhD, Aaron Gubi, PhD (Kean University), and Kirby Wycoff, PhD (Worcester State University)

PURPOSE OF THE STUDY: The purpose of this study is to examine the trauma related education, training, experiences, perceived competence, and confidence of schoolpsychology trainees, trainers, and practitioners.

PROCEDURES: We are asking you to complete a one-time online questionnaire about your previous informal and formal education and training, work experiences, and perceived competence and competence related to providing traumainformed care in schools. The questionnaire also includes questions about demographic information (such as age, race/ethnicity, and details of your school psychology training and education).

EXPECTED DURATION: We expect the questionnaire to take about 10 to 20

minutes to complete.

RISKS OF PARTICIPATION: No major foreseeable risks are anticipated. If participants choose to access an online survey via an unprotected wireless network, their confidentiality and data is more easily compromised. During actual Internet communication procedures or accessing an unprotected wireless system, there is a possible risk of breach of confidentiality or data security. Additionally, we may ask you to answer questions about your behaviors, thoughts, and/or emotions in an online questionnaire. We do not anticipate that any of these questions will cause significant distress; however, if at any time you feel distressed and wish to discontinue participation, you may do so. Please note that this study is in no way intended to treat personal medical, psychiatric, or psychological difficulties. If you require treatment for emotional difficulties, please contact a mental health professional.

BENEFITS TO THE SUBJECT: Currently, there is no direct benefit for participating in this research. However, results of this study will provide valuable information about school psychologists' backgrounds, thoughts, and opinions related to providing trauma-informed services in school settings. We hope that this survey will serve as a first step to taking national, collaborative action to improve trauma-informed care in schools across the United States.

CONFIDENTIALITY OF RECORDS: Every effort will be made to maintain the confidentiality of your study records. For online participation, your confidentiality will be kept to the degree permitted by the technology being used. No guarantees can be made regarding the interception of data via the Internet or email. The data collected from the study will be used for educational and publication purposes; however, you will not be identified by name. Participants'

data for this research project will be maintained and safeguarded on a password-protected database by the Principal Investigators for a minimum of three years after completion of the

study. After that time, the participant's documentation may be destroyed.

FINANCIAL COMPENSATION: There is no financial compensation to be offered for participation in the study.

INVESTIGATOR'S RIGHT TO WITHDRAW PARTICIPANT: The investigator has the right to withdraw you from this study at any time.

SIGNATURES (DIGITAL CONSENT): By clicking "I agree" below, you acknowledge your voluntary participation in this research project. Such participation does not release the investigator(s), institution(s), sponsor(s) or granting agency(ies) from their professional and ethical responsibility to you. By submitting this form, you are not waiving any of your legal rights.

The purpose of this study, procedures to be followed, and explanation of risks or benefits have been explained to you. You have been allowed to ask questions and your questions have been answered to your satisfaction. You have been told who to contact if you have additional questions. You have read this consent form and voluntarily agree to participate as a subject in this study. You are free to withdraw your consent at any time by contacting the Principal Investigator or Student Researcher/Faculty Sponsor. You are encouraged to print and save a copy of the consent form you have submitted.

THE UNIVERSITY OF HOUSTON-CLEAR LAKE (UHCL) COMMITTEE FOR PROTECTION OF HUMAN SUBJECTS HAS REVIEWED AND APPROVED THIS PROJECT. ANY QUESTIONS REGARDING YOUR RIGHTS AS A RESEARCH SUBJECT MAY BE ADDRESSED TO THE UHCL COMMITTEE FOR THE PROTECTION OF HUMAN SUBJECTS (281-283-3015). ALL RESEARCH PROJECTS THAT ARE CARRIED OUT BY INVESTIGATORS AT UHCL ARE GOVERNED BY REQUIREMENTS OF THE UNIVERSITY AND THE FEDERAL GOVERNMENT. (FEDERALWIDE ASSURANCE # FWA00004068).

firstname

My first name is...

_____

lastname My last name is...

_____

email My email address is...

_____

consent

I consent to participation in this study.

(If you do NOT consent to participation in this study, please exit this webpage now.)

o Yes. (1)

Page Break

End of Block: Consent and ID info

Start of Block: Training in Trauma

Trauma descriptions For the following questions, consider the following descriptions.

"Trauma" occurs when a child experiences an intense event that threatens or causes harm to his or her emotional and physical well-being. Trauma can be the result of exposure to a natural disaster such as a hurricane or flood or to events such as war and terrorism. Witnessing or being the victim of violence, serious injury, or physical or sexual abuse can be traumatic. Accidents or medical procedures can result in trauma, too. (Source: National Child Traumatic Stress Network)

A "trauma-informed" perspective entails acknowledging how trauma may manifest in a range of symptoms and difficulties that (a) can be mistaken for other common behavioral or neurodevelopmental problems (e.g., ADHD) and (b) require recognition of the underlying problem so that effective, evidence-based treatment can be provided.

trainimpactrating I would rate my education and training on the impact of trauma on development, learning, and behavior (trauma KNOWLEDGE) as...

o None (I have little or no information about this topic) (1)

o Minimal (I have some exposure) (2)

o Adequate (3)

o Expert level (I consider this a mastery/specialty area of mine) (4)

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trainservdelivrating I would rate my education and training in trauma-related service delivery (e.g, direct assessment and intervention; trauma SKILLS) as...

o None (I have little or no information about this topic) (1)

o Minimal (I have some exposure) (2)

o Adequate (3)

o Expert level (I consider this a mastery/specialty area of mine) (4)

traintypesreceived I have received the following types of training in trauma-related knowledge and/or skills (check all that apply):

▢ Graduate course (1)

▢ Continuing education/in-service (2)

▢ Supervised practicum and/or internship case(s) (3)

▢ Informal on-the-job training (i.e., learned by doing) (4)

▢ Independent reading/study (5)

▢ Other (8) _____

▢ ⊗NONE (0)

trainsoughtbeyond Have you ever sought out trauma-related experiences and training BEYOND those required of you in your position?

o Yes (1)

o No (2)

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End of Block: Training in Trauma

Start of Block: Experience, Competence, and Confidence in Delivering Trauma Services

students_aces

In the past calendar year, I have worked directly with or consulted with teachers/caregivers about a student who experienced the following at some point during their childhood (before 18 years old):

	No (0)	Yes (1)
Experienced emotional abuse (i.e., Had a parent or other adult in the household who often swore at them, insulted them, put them down, or humiliated them, -OR- Acted in a way that made them afraid that they might be physically hurt). (exprc_studentaces_emoabuse)	o	o
Experienced physical abuse (i.e., Had a parent or other adult in the household who often pushed, grabbed, slapped, or threw something at them -OR- Ever hit them so hard that they had marks or were injured) (exprc_studentaces_physabuse)	o	o
Experienced sexual abuse (i.e., Had an adult or person at least 5 years older than them who ever touched		

or fondled them, or had them touch the adult/older person's body in a sexual way -OR- Tried to or actually had oral, anal, or vaginal sex with them).
(exprc_studentaces_sexabuse)
o o
Experienced emotional neglect (i.e., often felt that no one in their family loved them or thought they were important or special -OR- their family didn’t look out for each other, feel close to each other, or support each other).
(exprc_studentaces_emoneglect)
o o
Experienced physical neglect (i.e., often didn't have enough to eat, had to wear dirty clothes, and had no one to protect them -OR- their parents were too drunk or high to take care of them or take them to the doctor if they needed it).
(exprc_studentaces_physneglect)
o o

Had parents who were ever separated or divorced.

(exprc_studentaces_divorce) o o

Had a mother who was treated violently (i.e., their mother or stepmother was often pushed grabbed, slapped, or had something thrown at her -OR- was sometimes or often kicked, bitten, hit with a fist, or hit with something hard? -ORwas ever repeatedly hit over at least a few minutes or threatened with a gun or knife).

(exprc_studentaces_momtxviolently)

o o

Had substance abuse within their household (i.e., lived with anyone who was a problem drinker or alcoholic or who used street drugs).

(exprc_studentaces_subabuse)

o o

Had mental illness in their household (i.e., Had a household member who was depressed or mentally ill or attempted suicide).

(exprc_studentaces_mentalill)

o o

Had a family member who was incarcerated (i.e., Had a household member who went to prison).

(exprc_studentaces_incarcerated)

o o

students_trexpnotace

In the past calendar year, I have worked directly with or consulted with teachers/caregivers about a student who experienced the following at some point during their childhood (before 18 years old):

	No (0)	Yes (1)
Witnessed the serious injury or death of another person. (students_trexpnotace_24)	o	o
Lived and/or went to school in a place affected by community violence. (exprc_studentaces_emoabuse)	o	o
Was affected by a natural disaster. (exprc_studentaces_physabuse)	o	o
Had a parent/caregiver who was deployed. (Q109_20)	o	o
Had a parent/caregiver who was deported. (Q109_19)	o	o
Had a parent/caregiver who died. (Q109_3)	o	o
Underwent one or more major medical procedures, illnesses, or hospital stays. (students_trexpnotace_23)		

o o

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exprc_assmtmeasures In the past calendar year, I have administered and interpreted the following trauma-related assessment measures in a school setting: (check all that apply):

▢ UCLA Post-Traumatic Stress Disorder Reaction Index (2)

▢ Child PTSD Symptom Scale (CPSS) (3)

▢ Northshore Trauma History Checklist and Interview (4)

▢ Trauma Symptom Checklist for Children (TSCC) and/or Trauma Symptom Checklist for Young Children (TSCYC) (5)

▢ Traumatic Events Screening Inventory-Child Report Form-Revised (TESI-CRFR) (6)

▢ Other trauma-related assessment measure: (7)

_____

▢ ⊗NONE (8)

Page 11 of 29

exprc_intvnprogs In the past calendar year, I have conducted the following trauma-related interventions in a school setting: (check all that apply):

▢ Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) (2)

▢ Dialectical Behavioral Therapy (DBT) or DBT skills-based intervention (3)

▢ Child-Parent Psychotherapy (CPP) (4)

▢ Parent-Child Interaction Therapy (PCIT) (5)

▢ Cognitive-Behavioral Intervention for Trauma in Schools (CBITS) or BOUNCE (elementary level CBITS) (6)

▢ Attachment, Self-Regulation, and Competency (ARC) model (7)

▢ Trust-Based Relational Intervention (TBRI) (9)

▢ Other trauma-related intervention: (8)

_____

▢ ⊗NONE (11)

Iconsiderimpact I consider the possible impact of trauma when conducting traditional

psychoeducational assessments and making recommendations for interventions.

o Never (1)

o Sometimes (2)

o About half the time (3)

o Most of the time (4)

o Always (5)

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confidencerating I would rate my confidence in working with children who have experienced trauma as...

o None (I have little or no confidence related to this topic) (1)

o Minimal (I have some confidence) (2)

o Adequate (3)

o Expert level (I consider this a mastery/specialty area of mine) (4)

confidence_prep2delv I feel adequately prepared to deliver the following services in a school setting: (check all that apply):

▢ Trauma-related assessment (i.e., interviews, observations, testing, etc. that may capture trauma-related symptoms or behaviors) (2)

▢ Trauma-related intervention (e.g., counseling, behavioral interventions, etc. that may address trauma-related symptoms or behaviors) (3)

▢ Trauma-related consultation (i.e., working with teachers, administrators, and other school staff to help children exhibiting trauma-related symptoms or behaviors) (6)

▢ Other (9) _____

▢ ⊗NONE (8)

End of Block: Experience, Competence, and Confidence in Delivering Trauma Services

Start of Block: Current and Desired Roles in Trauma Services

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roles_Spsshould I believe that school psychologists should be involved in the following activities related to trauma-informed care:

▢ Screening for trauma exposure and/or traumatic stress symptoms (1)

▢ Conducting formal assessments for trauma-related conditions and symptoms (3)

▢ Considering the impact of trauma when conducting traditional psychoeducational assessments (trauma-informed assessment) (4)

▢ Recommending trauma-related interventions for individual students (6)

▢ Delivering direct trauma-related interventions to individual students and/or families in the school setting (e.g., trauma counseling, TF-CBT, CBITS.) (7)

▢ Designing and implementing trauma-informed system-wide practices (9)

▢ Training teachers and staff on the impact of trauma and/or trauma-informed care (11)

▢ Case management, referrals, and/or service coordination with outside agencies and/or providers. (12)

▢ Other (13) _____

▢ ⊗NONE (14)

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Roles I currently I am (or my students are, if trainer) currently involved in the following activities

related to trauma-informed care at my school:

▢ Screening for trauma exposure and/or traumatic stress symptoms (1)

▢ Conducting formal assessments for trauma-related conditions and symptoms (3)

▢ Considering the impact of trauma when conducting traditional psychoeducational assessments (trauma-informed assessment) (4)

▢ Recommending trauma-related interventions for individual students (6)

▢ Delivering direct trauma-related interventions to individual students and/or families in the school setting (e.g., trauma counseling, TF-CBT, CBITS.) (7)

▢ Designing and implementing trauma-informed system-wide practices (9)

▢ Training teachers and staff on the impact of trauma and/or trauma-informed care (11)

▢ Case management, referrals, and/or service coordination with outside agencies

and/or providers. (12)

▢ Other (13) _____

▢ ⊗NONE (14)

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roles_Iwouldlike I am (or my students are, if trainer) NOT currently but would like to be involved

in the following activities related to trauma-informed care at my school:

▢ Screening for trauma exposure and/or traumatic stress symptoms (1)

▢ Conducting formal assessments for trauma-related conditions and symptoms (3)

▢ Considering the impact of trauma when conducting traditional psychoeducational

assessments (trauma-informed assessment) (4)

▢ Recommending trauma-related interventions for individual students (6)

▢ Delivering direct trauma-related interventions to individual students and/or

families in the school setting (e.g., trauma counseling, TF-CBT, CBITS.) (7)

▢ Designing and implementing trauma-informed system-wide practices (9)

▢ Training teachers and staff on the impact of trauma and/or trauma-informed care

(11)

▢ Case management, referrals, and/or service coordination with outside agencies

and/or providers. (12)

▢ Other (13) _____

▢ ⊗NONE (14)

End of Block: Current and Desired Roles in Trauma Services

Start of Block: Barriers to Trauma-Informed Care - Apr 13, 2017

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barriers Do you consider the following to be significant barriers to providing trauma-informed

care in the schools?

No (Not a Barrier) (0) Yes (This is a Barrier) (1)

Difficulty identifying children with trauma background, exposure to trauma, or adverse childhood experiences (barriers_1)
o o
Insufficient number of school mental health professionals (barriers_2) o o
Insufficient time to engage in trauma-informed care due to other professional requirements (e.g., psychological evaluations, IEP requirements, etc.) (barriers_3)
o o
Lack of adequate training for providing trauma-informed care (barriers_4) o o
Difficulty gaining cooperation and consent for providing trauma-informed care in the school setting (barriers_5)
o o
Lack of coordinated services between schools and community (barriers_6) o o

Lack of funding for providing

trauma-informed care in the

school setting (barriers_7) o o

Competing priorities taking

precedence over traumainformed care practices in the

school or school system

(barriers_8)

o o

Educators and/or other school

staff not considering mental

health issues a role of the

school (barriers_9)

o o

Behavioral difficulties viewed

by staff as "discipline issues"

rather than mental health

issues (barriers_10)

o o

Ineed What would you need to provide trauma-informed care in your school setting? (If you are

a graduate educator, what do you think your students would need? If you are a practicum

student or intern, what do you think you will need when you are a full-time school psychologist?)

_____

_____

_____

_____

_____

End of Block: Barriers to Trauma-Informed Care - Apr 13, 2017

Start of Block: SP demographics

sptype My PRIMARY role right now is as a school psychology...

o Practitioner (certified/licensed school psychologist) (1)

o Student (taking classes in a formal school psychology training program) - includes

practicum students (2)

oIntern (completing a formal internship for a school psychology training program) (3)

o Graduate educator (in a formal school psychology training program) (4)

o Psychologist in private or clinical practice (e.g., in a non-school setting) (6)

o Other (5) _____

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Display This Question:

If My PRIMARY role right now is as a school psychology... = Practitioner (certified/licensed school

psychologist)

Or My PRIMARY role right now is as a school psychology... = Graduate educator (in a formal school

psychology training program)

highestSPdegree My highest degree in SCHOOL PSYCHOLOGY is...

o Master's (e.g., M.A., M.Ed., or M.S.) (1)

o Specialist (e.g., Ed.S. or SSP) (2)

o Doctorate (e.g., Ph.D., Psy.D., or Ed.D.) (3)

highestANYdegree My highest degree in ANY FIELD is...

o Master's (e.g., M.A., M.Ed., or M.S.) (1)

o Specialist (e.g., Ed.S. or SSP) (2)

o Doctorate (e.g., Ph.D., Psy.D., or Ed.D.) (3)

o Other (8) _____

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licensure I currently hold a formal practice credential (certificate, license, or equivalent) issued

by the appropriate agency or board in my state:

▢ School Psychologist (or equivalent in your state--e.g., School Psychology

Specialist, Licensed Specialist in School Psychology, etc.) (1)

▢ Licensed Psychological Associate or Assistant (or equivalent for below doctorallevel Psychology practice in your state) (5)

▢ Licensed Psychologist (6)

▢ Licensed Professional Counselor (or equivalent in your state) (2)

▢ Licensed Marriage and Family Therapist (or equivalent in your state) (3)

▢ Licensed Social Worker (Master's or Clinical) (4)

▢ Certified or Licensed Teacher (7)

▢ Other related mental health/education credential (8)

_____

▢ Provisional or intern-level credential (11)

_____

▢ ⊗NONE (9)

ncsp I currently hold the Nationally Certified School Psychologist (NCSP) credential, issued by

the National Association of School Psychologists (NASP).

o Yes - OR application pending (1)

o No (2)

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Display This Question:

If My PRIMARY role right now is as a school psychology... = Practitioner (certified/licensed school

psychologist)

Or My PRIMARY role right now is as a school psychology... = Graduate educator (in a formal school

psychology training program)

yearsSPpractice I have COMPLETED ___ full years of school psychology practice. (Internship

counts!)

_____

Display This Question:

If My PRIMARY role right now is as a school psychology... = Practitioner (certified/licensed school

psychologist)

gradelevels Iny my school psychology practice, I work with the following age group(s) - Check

all that apply.

▢ Early Childhood or PreK (1)

▢ Elementary (2)

▢ Middle/Junior High (3)

▢ High School (4)

▢ Other (6) _____

Display This Question:

If My PRIMARY role right now is as a school psychology... = Student (taking classes in a formal

school psychology training program) - includes practicum students

Or My PRIMARY role right now is as a school psychology... = Student (taking classes in a formal

school psychology training program) - includes practicum students

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SPprogramtype My current SCHOOL PSYCHOLOGY graduate program is a ___ level program.

o Master's (e.g., M.A., M.Ed., or M.S.) (2)

o Specialist (e.g., Ed.S. or SSP) (3)

o Doctorate (e.g., Ph.D., Psy.D., or Ed.D.) (5)

Display This Question:

If My PRIMARY role right now is as a school psychology... = Student (taking classes in a formal

school psychology training program) - includes practicum students

SPprogramyear I am in my ___ year of my school psychology graduate program. (If you are

enrolled in a graduate program part-time, please enter the "cohort year" in terms of how many

credits you have earned, NOT how many calendar years you have been enrolled.)

o1st (1)

o2nd (2)

o3rd (3)

o4th (4)

o5th (5)

o6th or beyond (6)

ageinyears My current age in years is...

_____

ethnicity What categories describe you? Select all that apply to you

▢ American Indian or Alaska Native—For example, Navajo Nation, Blackfeet Tribe, Mayan, Aztec, Native Village of Barrow Inupiat Traditional Government, Nome Eskimo Community (1)

▢ Asian—For example, Chinese, Filipino, Asian Indian, Vietnamese, Korean, Japanese (2)

▢ Black or African American—For example, Jamaican, Haitian, Nigerian, Ethiopian, Somalian, Black, Black American, African American, etc. (3)

▢ Hispanic, Latino or Spanish Origin—For example, Mexican or Mexican American, Puerto Rican, Cuban, Salvadoran, Dominican, Columbian (4)

▢ Middle Eastern or North African—For example, Lebanese, Iranian, Egyptian, Syrian, Moroccan, Algerian (5)

▢ Native Hawaiian or Other Pacific Islander—For example, Native Hawaiian, Samoan, Chamorro, Tongan, Fijian, Marshallese (6)

▢ White—For example, German, Irish, English, Italian, Polish, French (7)

▢ ⊗Some other race, ethnicity, or origin (please specify) (9)

_____

▢ ⊗Prefer not to answer (8)

gender I identify most strongly with the following gender...

o Male (0)

o Female (1)

o Other (8) _____

o Prefer not to answer (9)

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income What range best describes your total household income BEFORE taxes for the current year? (Estimates are ok.)

oLess than $10,000 (1)

o$10,000 to $19,999 (2)

o$20,000 to $29,999 (3)

o$30,000 to $39,999 (4)

o$40,000 to $49,999 (5)

o$50,000 to $59,999 (6)

o$60,000 to $69,999 (7)

o$70,000 to $79,999 (8)

o$80,000 to $89,999 (9)

o$90,000 to $99,999 (10)

o$100,000 to $149,999 (11)

o$150,000 or more (12)

o Prefer not to answer (13)

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state The PRIMARY state where I practice (or study, if student) school psychology is...

o Alabama (1)

o Alaska (2)

o Arizona (3)

o Arkansas (4)

o California (5)

o Colorado (6)

o Connecticut (7)

o Delaware (8)

o District of Columbia (9)

o Florida (10)

o Georgia (11)

o Hawaii (12)

oIdaho (13)

oIllinois (14)

oIndiana (15)

oIowa (16)

o Kansas (17)

o Kentucky (18)

oLouisiana (19)

o Maine (20)

o Maryland (21)

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o Massachusetts (22) o Michigan (23) o Minnesota (24) o Mississippi (25) o Missouri (26) o Montana (27) o Nebraska (28) o Nevada (29) o New Hampshire (30) o New Jersey (31) o New Mexico (32) o New York (33) o North Carolina (34) o North Dakota (35) o Ohio (36) o Oklahoma (37) o Oregon (38) o Pennsylvania (39) o Puerto Rico (40) o Rhode Island (41) o South Carolina (42)

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o South Dakota (43)

o Tennessee (44)

o Texas (45)

o Utah (46)

o Vermont (47)

o Virginia (48)

o Washington (49)

o West Virginia (50)

o Wisconsin (51)

o Wyoming (52)

oI do not reside in the United States (53)

urban_rur_sub The PRIMARY area(s) where I practice (or study, if student) school psychology is (are) MOSTLY (a(n)) ___ area(s).

▢ Urban (1)

▢ Suburban (2)

▢ Rural (3)

▢ Other (4) _____

End of Block: SP demographics

Start of Block: Georgia Trainer Questions

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Q110 Select the response that best describes your graduate training program in school psychology.

o Our training program is a traditional program with the majority of courses having faceto-face classes. (1)

o Our training program is a hybrid or fully online program with the majority of courses being online. (2)

Q111 Does your school psychology training program address child trauma and trauma-informed care in its curriculum?

o Yes (1)

o No (2)

Display This Question:

If georgia2 = Yes

Q112 If you answered yes, how does your school psychology training program incorporate trauma training into its curriculum?

o Specific course(s) on trauma in children and/or trauma-informed care in schools (1)

oIncorporate the topic of trauma in children and/or trauma-informed care as a topic into an existing course on mental health or crisis intervention (4)

o Offer trauma studies as an area of concentration (5)

o Offer a certificate of training in trauma-informed care/practices in schools (6)

o Provide workshops on trauma-informed care/practices in schools (7)

o Other (8) _____

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Q114 Please indicate how much you agree with each statement below.

Strongly

Disagree (0) (0) Disagree (1) (1) Agree (2) (2) Strongly Agree

(3) (3)

School psychology students in our program have a strong knowledge base of trauma and its

impact on children prior to going on internship.

(georgia3)

o o o o

School psychology students in our program have a strong knowledge base of trauma informed

practices prior to going on internship.

(georgia4)

o o o o

Display This Question:

If georgia1 = Our training program is a hybrid or fully online program with the majority of courses

being online.

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Q113 Do you consider the following barriers to addressing trauma training in an online format?

None (Not a Barrier) (0) Yes (This is a Barrier) (1)

Difficulty presenting sensitive

material such as traumarelated information without an

opportunity to have an open

discussion directly with

graduate students in the

program (georgia5)

o o

Difficulty in sensing how the trauma-related material may impact graduate students themselves (georgia6)

o o

Difficulty incorporating trauma training into the curriculum due to competing priorities that take precedence over trauma training (georgia7)

o o

(Q113_6) o o

End of Block: Georgia Trainer Questions

Start of Block: Contact info

contactok Thank you for your responses.

APPENDIX E: PERMISSION FROM ORIGINAL SURVEY AUTHORS TO USE/EDIT SPTTS SURVEY
(Received on 10/19/2020)

Hi Lesha,

Thank you for your email and your interest in extending our work to school nurses. Very exciting and needed area of inquiry! We are happy to share the survey with you. I am attaching a copy of the version we used within our 2019 publication. It is a pdf of the Qualtrics survey.

Thank you for your interest. We wish you all the best on your dissertation project and look forward to seeing your final manuscript once you have completed your project.

Thanks and best regards,

Aaron Gubi

Julia Strait

Kirby Wycoff

APPENDIX F: FINAL ADAPTED SCHOOL NURSE KNOWLEDGE SURVEY

Confidential

School Nurses Knowledge of Trauma-Informed Care in School Health Practice Survey

The Purpose of this study: is to examine the role of the school nurse related to trauma-informed care in school settings. Your input will provide crucial information on how the school nurse is currently involved in trauma-informed care and how the school nurse can be an integral force in the future development of school-based trauma informed programs which address the needs of students impacted by trauma.

Your participation is voluntary and you can stop taking the survey at any time. Your individual responses will be kept confidential and all findings will be reported as group summaries.

As you answer the questions, consider the following descriptions.
"Trauma" can occur when a child or adolescent experiences or is exposed to an adverse childhood experience (ACE) which causes harm to his or her emotional and/or physical well-being.

ACEs come in many forms and include events such as exposure to a disaster such as a hurricane or flood or to events such as maltreatment, witnessing violence or loss of a loved one, parental divorce, or sexual abuse.

A "trauma-informed" perspective acknowledges that trauma may be related to such problems as substance abuse, classroom disruption, truancy, ADHD, frequent health complaints, or other disruptive behavior.

Trauma-informed care refers to a school's culture, practices, and policies that recognizes and addresses the learning needs of students impacted by trauma.

I would rate my education and training on the impact of trauma on development, learning, and behavior (trauma knowledge) as:

- ○ None
- ○ Minimal
- ○ Adequate
- ○ Expert level

I would rate my education and training in trauma-related service delivery (e.g, assessment and intervention trauma skills) as:

- ○ None
- ○ Minimal
- ○ Adequate
- ○ Expert level

I have received the following types of training in trauma-related knowledge and/or skills (check all that apply):

- ☐ Continuing education/in-service
- ☐ Supervised practicum and/or internship/clinical experience
- ☐ Informal on-the-job training (i.e., learned by doing)
- ☐ Independent reading/study
- ☐ Other _____
- ☐ None

Did your pre-licensure nursing program provide any trauma-related training prior to graduation?

- ○ Yes
- ○ No
- ○ Not sure

If you answered yes, how did your training program incorporate trauma training into its curriculum?

- ◯ Specific course(s) on trauma in children and/or trauma-informed care in schools
- ◯ Incorporate the topic of trauma in children and/or trauma-informed care as a topic into an existing course on mental health or crisis intervention
- ◯ Offer trauma studies as an area of concentration
- ◯ Offer a certificate of training in trauma-informed care/practices in schools
- ◯ Provide workshops on trauma-informed care/practices in schools
- ◯ Other _____

I believe that trauma-informed care should be an essential focus in all schools:

- ◯ Strongly Agree
- ◯ Agree
- ◯ Undecided
- ◯ Disagree
- ◯ Strongly Disagree

How many students do you typically see in a school year who had experienced the following at some point in their childhood, or who you consulted about with teachers, caregivers, or school staff:	None	1-5	6-10	>10
Experienced emotional abuse	○	○	○	○
Experienced physical abuse	○	○	○	○
Experienced sexual abuse	○	○	○	○
Experienced emotional neglect	○	○	○	○
Experienced physical neglect	○	○	○	○
Had parents who were ever separated or divorced	○	○	○	○
Had a mother who was treated violently	○	○	○	○
Had substance abuse within their household	○	○	○	○
Had mental illness in their household	○	○	○	○
Had a family member who was incarcerated	○	○	○	○

How many students do you typically see in a school year who had experienced the following at some point in their childhood, or who you consulted about with teachers, caregivers, or school staff:	None	1-5	6-10	>10
Witnessed the serious injury or death of another person	○	○	○	○
Lived and/or went to school in a place affected by community violence	○	○	○	○
Was affected by a natural disaster	○	○	○	○
Had a parent/caregiver who was deployed	○	○	○	○
Had a parent/caregiver who was deported	○	○	○	○
Had a parent/caregiver who died	○	○	○	○
Had a parent who had a serious medical issue, illness, or was hospitalized	○	○	○	○

How much confidence do you have in your ability to deliver the following services in your school setting?	Not confident	Somewhat confident	Confident
Trauma-related assessment (i.e., interviews, observations, testing, etc. that may capture trauma-related symptoms or behaviors)	○	○	○
Trauma-related intervention (e.g., counseling, behavioral interventions, etc. that may address trauma-related symptoms or behaviors)	○	○	○
Trauma-related consultation (i.e., working with teachers, administrators, and other school staff to help children exhibiting trauma-related symptoms or behaviors)	○	○	○

Do you believe that school nurses should be involved in the following activities related to trauma-informed/related care:			
	Agree	Unsure	Disagree
Screening for trauma exposure and/or traumatic stress	○	○	○
Conducting formal assessments for trauma related conditions and symptoms as part of a collaborative team	○	○	○
Recommending trauma-related interventions for individual students	○	○	○
Delivering direct trauma-related interventions to individual students and/or families in the school setting	○	○	○
Designing and implementing trauma-informed systemwide practices	○	○	○
Training teachers and staff on the impact of trauma and/or trauma-informed care	○	○	○
Providing case management, referrals, and/or acting as a service coordinator with outside agencies and/or providers	○	○	○

How frequently are you involved in the following activities related to trauma-informed care at your school or schools:			
	Not involved	Sometimes	Frequently
Screening for trauma exposure and/or traumatic stress symptoms	○	○	○
Conducting formal assessments as a part of a collaborative team for trauma-related conditions And symptoms	○	○	○
Recommending trauma-related interventions for individual students	○	○	○
Delivering direct trauma-related interventions to individual students and/or families in the school setting	○	○	○
Designing and implementing trauma-informed system-wide practices	○	○	○
Training teachers and staff on the impact of trauma and/or trauma-informed care	○	○	○
Providing case management, referrals, and/or acting as a service coordinator with outside agencies and/or providers	○	○	○

How significant are the following barriers to implementing trauma-informed care at your school or schools:

	Very Significant	Significant	Unsure	Not Significant
Difficulty identifying children with trauma background, exposure to trauma, or ACEs	○	○	○	○
Insufficient number of school mental health professionls	○	○	○	○
Insufficient time to engage in trauma-informed care due to other professional requirements school health evaluations(vision, hearing, health screens),health referrals, IEP requirements, etc.)	○	○	○	○
Lack of adequate training for providing trauma-informed care	○	○	○	○
Difficulty gaining cooperation and consent for providing trauma-informed care in the school setting	○	○	○	○
Lack of coordinated services between schools and community	○	○	○	○
Lack of funding for providing trauma-informed care in the school setting	○	○	○	○
Competing priorities taking precedence over trauma-informed care practices in the school or school system	○	○	○	○
Educators and/or other school staff not considering mental health issues a role of the school	○	○	○	○
Behavioral difficulties viewed by staff as "discipline issues" rather than mental health issues	○	○	○	○

In addition to any of the barriers listed above, are there any other barriers or limitations that could limit your ability to provide TIC to your students.?

My PRIMARY role right now is as a school nurse...

○ Full Time
○ Part Time
○ Other _____

My highest degree in Nursing is...

- ○ ADN
- ○ BSN
- ○ Master's (MSN)
- ○ Doctorate (Ph.D., DNP)
- ○ Other _____

My highest degree in ANY FIELD is...

- ○ Bachelor's degree
- ○ Master's Degree
- ○ Doctorate (Ph.D., DNP)
- ○ Other _____
- ○ None

Certification: I currently hold the Nationally Certified School Nurse (NCSN) credential, issued by the National Association of School Nurses (NASN).

- ○ Yes - OR application pending
- ○ No
- ○ Other (State Certification)
- ○ Other Certification (Clinical Advance Practice, Nurse Practitioner)

In my school nurse practice, I work with the following age group(s) - Check all that apply.

- ☐ Early Childhood or PreK
- ☐ Elementary
- ☐ Middle/Junior High
- ☐ High School
- ☐ Other _____

How many years have you practiced school nursing?

- ○ 1 year or less
- ○ 2-5 years
- ○ 6-10 years
- ○ 11-15 years
- ○ 16-20 years
- ○ 21-25 years
- ○ 26 or more

How many schools are you assigned?

- ○ 1
- ○ 2
- ○ 3
- ○ 4 or more

How many total students are in your school assignment?

- ○ < 300
- ○ 301-500
- ○ 501-700
- ○ 701-900
- ○ more than 900

Ethnicity

What categories describe you? Select all that apply to you

- ☐ American Indian or Alaska Native-For example, Navajo Nation, Blackffeet Tribe, Mayan, Aztec, Native Village of Barrow Inupiat Traditional Government, Nome Eskimo Community
- ☐ Asian-For example, Chinese, Filipino, Asian Indian, Vietnamese, Korean, Japanese
- ☐ Black or African American-For example, Jamaican, Haitian, Nigerian, Ethiopian, Somalian, Black, Black American, African American, etc.
- ☐ Latino or Spanish Origin-For example, Mexican or Mexican American, Puerto Rican, Cuban, Salvadoran, Dominican, Columbian
- ☐ Middle Eastern or North African-For example, Lebanese, Iranian, Egyptian, Syrian, Moroccan, Algerian
- ☐ Native Hawaiian or Other Pacific Islander-For example, Native Hawaiian, Samoan, Chamorro, Tongan, Fijian, Marshallese
- ☐ White-For example, German, Irish, English, Italian, Polish, French
- ☐ Some other race, ethnicity, or origin (please specify) _____
- ☐ Prefer not to answer

I identify most strongly with the following gender...

- ◯ Male
- ◯ Female
- ◯ Other _____
- ◯ Prefer not to answer

The PRIMARY area(s) where I practice is MOSTLY

- ◯ Urban
- ◯ Suburban
- ◯ Rural
- ◯ Other _____

TO BE ENTERED INTO THE DRAWING- for one of (10) $50 electronic gift cards to Amazon, please provide your name and email contact information. This information will only be used for contacting you if you win. After the drawing, all contact information will be deleted and no longer associated with your survey answers. The Principal Investigator for this study will contact you by email if you win a gift card.

_____