EXPLORING THE IMPACT OF EDUCATING NURSING STUDENTS IN HIGHER EDUCATION ON TRAUMA AND TRAUMA INFORMED CARE

BY

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DEDICATION

To all the survivors of trauma, may you be cared for by understanding and compassionate nurses.

To my past, present, and future nursing students may you understand the power in accepting patients where they are and helping them on their journey. One of my favorite quotes is from Maya Angelou. She said, "I've learned that people will forget what you said, people will forget what you did, but people will never forget how you made them feel". My wish for you is that you change the lives for those you care for, even for the briefest second, as they will undoubtedly change yours.

To my father, I thank you for the example and work ethic you provided for me. From an early age, I was able to see that if you worked hard enough, you could achieve anything. You never thought twice about picking up the kids, taking them to practice, or running errands just so I could have time for school. I do not know where I would be without your unwavering love and support, and because of this I always knew I could achieve great things.

To my children, Alexa and Steven, I know this journey has not always been easy for you both as I had to miss events to go to school or do my homework. So, thank you for understanding and supporting me and I hope that you too will see the benefit of education. What I learned from this journey is to go after what you want because if you don't then you will never have it. Work hard for what you want and you will see great things happen. Love you both with all my heart. I love being your mother.

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Finally, this dissertation is dedicated to the memory of my mother. You made sure your daughters knew we could become anything we wanted to be as long as we worked hard. Your constant love and encouragement allowed us to know we had a safe place even in times of failure. However, if we did fail, we were to get up and try again. I am thankful for instilling this tenacity in us as it helped me get to where I am today. I am forever grateful. You still send your little pennies from heaven letting us know you are always with us.

Look, Mom! I made it!

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Exploring the Impact of Educating Nursing students in Higher Education on Trauma and Trauma-Informed Care

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ABSTRACT

According to Felitti, et al, (1998) more than half of the population had one exposure to an adverse childhood experience. Knowing this, the healthcare system must be prepared to care for these individuals. Unfortunately, unless nurses are being trained in their institutions they are not receiving TIC education in theory undergraduate studies. This raises the question of how are they expected to care for these patients if they do not know the correlation trauma has on their physical, emotional and cognitive health.

The purpose of this research study was to ascertain the impact of a trauma and trauma-informed care education session on nursing students who were currently enrolled in a mental health nursing course. This quantitative, quasi-experimental research study was completed by implementing a pre-survey, followed by an education session which was given by the researcher, and then a post-survey was administered. The researcher conducted a paired t-test to analyze the data from both surveys to determine the statistical significance.

The research question revealed a significant finding. The mean score of the pre-survey and the post-survey displayed an increase in knowledge of all the topics included in the survey. The findings also supported the fact that even though the nursing students were knowledgeable, the education session reinforced and expanded their knowledge. The p-value or significance of

all the survey questions were .001. which indicates the null hypothesis is rejected and the alternative hypothesis is true. In conclusion, even though nursing students perceive they are knowledgeable of trauma and trauma-informed care the post-survey results revealed an increase in knowledge for each individual survey question.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

ACE – Adverse Childhood Experiences

CDC - Centers for Disease Control and Prevention

SAMHSA - Substance Abuse and Mental Health Administration

TIC – Trauma-Informed Care

Chapter 1

1.1. Introduction

Trauma does not discriminate; it impacts those at all levels without regard to socioeconomic level, race, age, nor creed. Unfortunately, 40% of individuals will experience at least one adverse childhood event (ACE) before entering adulthood (National Child Traumatic Stress Network, 2014). These adverse childhood experiences, or traumas, leave a lifelong impact. The American Psychological Association [APA] (2013), describes trauma as an event an individual personally experiences or witnesses which involves a perceived threat of physical harm or actual physical harm to that individual. A result from the traumatic event could be physical, emotional, or psychological manifestations which may occur immediately afterward or develop later in adulthood (Briere & Scott, 2014). Additionally, the individual may feel helpless, fearful, or anxious when triggered by a later event (Maschi, Baer, Morrissey, & Moreno, 2013).

Children who experience a traumatic event or violence may have profound, detrimental, and lifelong effects (Oral et al., 2016). As reported by the National Child Traumatic Stress Network (2010), children's reactions to a traumatic event may manifest differently than those of an adult and awareness of these differences is needed, especially in the healthcare arena. Finkelhor, Ormrod, Turner, and Hamby (2005) surveyed survivors of traumatic events and deduced they had experienced an average of three traumatic events during their childhood. These exposures to trauma and violence lead to severe psychological, cognitive, and physical manifestations.

ACEs were first identified in the collaborative study between the Centers for Disease Control and Prevention (CDC) and Kaiser Permanente (Felitti & Anda, 2010). This epidemiological research study discovered a correlation between an individual with a history of

trauma and the negative physical and mental health outcomes that occur to that individual. In response to the high percentage of individuals experiencing traumatic events, the Substance Abuse and Mental Health Administration (SAMHSA) developed the Trauma-Informed Care (TIC) approach to help those trauma survivors. The foundation of trauma-informed care is an evidence-based approach and recognition that every individual has potentially experienced a traumatic event (Substance Abuse and Mental Health Services Administration, 2016). The TIC approach was developed to assist those caring for children and adults who have had Adverse Childhood Experiences (ACE). Multiple studies stemmed from this landmark research.

Dr. Felitti and Dr. Anda (1998) identified the following incidences as traumatic: several types of abuse, neglect, incarceration of a loved one, parental divorce, substance abuse, and/or mental illness of a person in the household. Each traumatic or stressful incidence translates as one point on the ACE scale developed by Felitti and Anda with the maximum score an individual can receive is ten points. An individual's ACE score is the sum of the different types of abuse, neglect, and/or household dysfunction. As each type of abuse or trauma an individual experience, the ACE score increases by one, with the maximum an individual can experience being ten ACEs. For example, if an individual has been sexually abused and lived with an alcoholic parent with mental health problems then the individual has an ACE score of three. Furthermore, Dr. Felitti discovered victims of sexual abuse may overeat as a coping mechanism to avert unwanted attention. As a result, their obesity may lead to disability and disease such as diabetes. According to Fox, Perez, Cass, Baglivio, and Epps (2015), the higher the ACE score, the higher the propensity the individual has of developing maladaptive behaviors and long-term negative health disparities.

Studies investigating the impact and long-term consequences of ACEs are prolific in mental health and human services research (Bartlett et al., 2016, Berger & Quiros, 2014, Knight, 2018, McLaughlin et al., 2012). Even more evident is the literature on trauma approaches in mental health, education, and corrections (Adler et al., 2016). The growing literature regarding the negative impact(s) these adverse childhood experiences have on individuals reinforces the need to educate nursing students on trauma and trauma-informed care. Nurses and those entering the nursing profession have an ethical obligation to have a general understanding of trauma and TIC. Nurses need to be aware of the existence of a trauma and how their practice approach and patient interactions will help or hinder the patient's outcome (Menschner & Maul, 2016).

TIC will allow nursing students to be more adept at caring for individuals with complex needs by having an awareness of the possible presence of trauma. This will decrease the probability of re-traumatization and give them the ability to identify those at higher risk for potentially unhealthy and/or risky behaviors. Legitimizing the existence of a possible traumatic history validates the patient's sense of well-being and provides a therapeutic environment (Menschner & Maul, 2016). Becoming knowledgeable in TIC approaches decreases the potential of triggering the patient (Felitti, 2002). Triggering a patient may lead to non-compliance and non-adherence to the healthcare plan (Felitti, 2002). Incorporating TIC into curricula allows nursing students to be educated and trained properly from the inception of their nursing career.

1.2. Background of the Problem

Literature addressing the high correlation between ACEs and the direct impact on components of health disparities, social interactions, and learning aptitudes are

significant. However, there is little documented research on educating students on ACEs and TIC especially in nursing education. This area needs to be included so novice nurses will be prepared to understand the way trauma presents in different individuals and the potential outcomes for the survivors of trauma.

Nursing has begun to realize the impact of ACEs. Unfortunately, it has not become a substantial component of nursing programs as it has in other disciplines. For example, social work and mental health have courses and certificate programs developed specifically for TIC (SAMHSA, 2014). Education, mental health, corrections, and human services have already identified trauma and TIC as an approach pivotal in their program of studies in higher education (Adler et al., 2016). Additionally, elementary and secondary education have also included professional development for trauma and TIC education (Anderson, Blitz, & Saastamoinen, 2015). Likewise, juvenile justice and corrections have initiatives and training programs for the frontline staff caring for these children which address the impact of trauma (Branson, Baetz, Horwitz, & Hoagwood, 2017).

Nurses, more than any other health care professional, have the most contact time and interaction with the patients. This makes it imperative to be educated in the TIC approach in order to care for the patients in a holistic manner. Novice nursing students do not have the experience nor the training to interact with survivors of trauma without the potential of doing detrimental damage. Stokes, Jacob, Gifford, Squires, and Vandyk (2017) surmised that nursing is in a unique position to not re-traumatize patients if they are knowledgeable in TIC. Trauma and TIC education will assist nursing students in approaching, assessing, communicating, and caring for trauma survivors in the clinical setting. This makes it even more crucial to provide novice nursing students trauma and TIC education to anticipate their patient's needs.

1.2.1. Trauma

"Trauma results from an event, series of events, or set of circumstances that is experienced by an individual as physically or emotionally harmful or threatening and that has lasting adverse effects on the individual's functioning and physical, social, emotional, or spiritual well-being" (Substance Abuse and Mental Health Services Administration, 2012, n.p.). A physiological response to stress and trauma is the fight or flight response. This response is triggered when an individual is exposed to something mentally or physically terrifying (Gloria, & Steinhardt, 2016). A traumatic event may not leave any physical evidence, but the emotional and psychological impact can last for years (Thomason & Marusak, 2017). These traumatic experiences can shatter a person's sense of safety, leaving them vulnerable and at an increased risk for developing and demonstrating high-risk behaviors (Layne et al., 2014).

Nurses and nursing students need to be aware of the statistical data related to the traumatic events experienced by patients in their care. For example, Child Protection Services recorded 676,000 survivors of reported abuse and neglect in 2016, furthermore there was an unmeasurable amount went unreported (Dong et al., 2004). Nationally, one in ten children has experienced at least one ACE, with the most common one being parental separation or divorce (Sacks, Murphey, & Moore, 2018). By knowing the possibility that all patients may have a potential for having a trauma history, this can prevent re-traumatization and increase advocacy for their patients.

For children and adolescents who experience violence, household dysfunction, or trauma during the formative years, biological and psychological reactions may occur, leading to chronic health conditions (Centers for Disease Control and Prevention, 2016). For example, individuals with an ACE score of three or higher may develop behavior, physical, or mental conditions

(Centers for Disease Control and Prevention, 2016). In addition, Dr. Felitti discovered patients with a higher ACE score, those who experienced multiple traumatic events, use more of the healthcare resources than those with lower ACE scores (Felitti et al., 1998). Felitti et al. (1998) also identified a correlation between a high ACE score and an increase in morbidity and mortality for individuals.

1.2.2. Adverse Childhood Experiences

In Dr. Felitti's article, "The Relation Between Adverse Childhood Experiences and Adult Health: Turning Gold into Lead" (2002), he discussed the background and the findings of the ACE study he and Dr. Anda conducted in the 1990s. Earlier, Dr. Felitti of Kaiser Permanente conducted an obesity clinic for its members to assist in their weight loss goals; unfortunately, the clinic had a high dropout rate. The clinicians interviewed over two hundred of those members who discontinued their participation in the program. From those interviews, those members self-identified a trauma that occurred during their childhood and discovered it was the precipice of their initial weight gain. Also, the members shared with the researchers that the weight gain was part of their coping mechanism and protective solution.

Kaiser Permanente then collected statistical data at the Appraisal Clinic in San Diego on the history and health of over 17,000 participants from 1995 to 1997 to determine other connections from ACEs and poor determinates of health. This group of individuals was monitored for five years for the frequency of emergency room visits, prescriptive drug use, doctors' visits, hospitalization and cause of death. Dr. Felitti analyzed the data and discovered a strong correlation of adverse childhood experiences and poor health outcomes in adults.

The findings from "The Relationship of Adult Health Status to Childhood Abuse and Household Dysfunction" (1998) were noteworthy as the poor health status resulted from a

trauma experienced approximately fifty years prior. Dr. Felitti of Kaiser Permanente and Dr. Anda of the CDC conducted this study to analyze which events impacted the members into adulthood. They identified different types of childhood trauma, or ACEs, an individual could experience from birth to age eighteen. The types were categorized into two groups: abuse and household dysfunction. Subgroups were identified from the main groups. The abuse subgroups are physical, emotional, or sexual abuse. Also, the household dysfunction subgroup are witnessing of a violent event, violence towards their mother, incarceration of a loved one, substance abuse and/or mental illness in the household.

During this time, Dr. Felitti noted, more than fifty percent of the participants indicated they had experienced one ACE and twenty-five percent indicated they had experienced two ACEs as a child. These scores were then compared to the number of times the participant used the healthcare system, if they developed certain diseases if they participated in high-risk behaviors, and other correlations.

The relationship between ACEs and ongoing physical health outcomes is identified in this ongoing health risk study. In subsequent studies, Dr. Felitti and Dr. Anda identified the population exposed to ACEs were at higher risk for specific diseases, chronic disease, and have an increased risk of participating in risky behaviors (Dube et al., 2001; Felitti, 2002; Anda, Butchart, Felitti, & Brown, 2010). These at-risk populations have a higher morbidity and mortality rate than those with no ACE score (Bellis et al., 2015). The nursing students who are caring for these individuals need to acquire training or at least an awareness of these factors and approaches.

1.2.3. Trauma-Informed Care

Trauma-informed care is an approach developed by the Substance Abuse and Mental Health Services Administration (SAMHSA) to help others become aware and understand the effect of trauma on its survivors and the role trauma plays for the survivors. This approach was initially developed to improve public mental health service for trauma survivors (SAMHSA, 2015). Today, this approach is being integrated into mental and behavioral health, substance abuse resources, K-12 education, and corrections. However, the medical and nursing fields are not at the forefront of this crisis intervention like mental and behavioral health. Raja, Hasnain, Hoersch, Gove-Yin, and Rajagopalan (2015) suggest TIC be applied like universal precautions are applied in healthcare. For example, by applying universal precautions in healthcare, a practitioner would assume a patient is potentially contagious and would wear personal protective equipment. These universal precautions in TIC are applied in a manner where the healthcare agent would assume and treat each patient as if they had a traumatic experience. So, instead of protecting the healthcare provider, the patient would be the one who is protected.

In order to become trauma-informed, one must follow the four key assumptions established by SAMHSA. The four key assumptions outlined in the trauma-informed approach are realization, recognize, respond, and resist re-traumatization (Figure 1). A practitioner is able to implement the four Rs by realizing the impact of trauma, recognizing the symptoms, responding to laws, policies, procedures, and practices; and resisting re-traumatizing (SAMHSA, 2014). These approaches and interventions are relevant to clinical practice as the practitioner is able to assist survivors and aid in the healing process if applied. The six core principles (Figure 2) of a trauma-informed approach is a framework which outlines how to reduce the probability of re-traumatizing an individual.

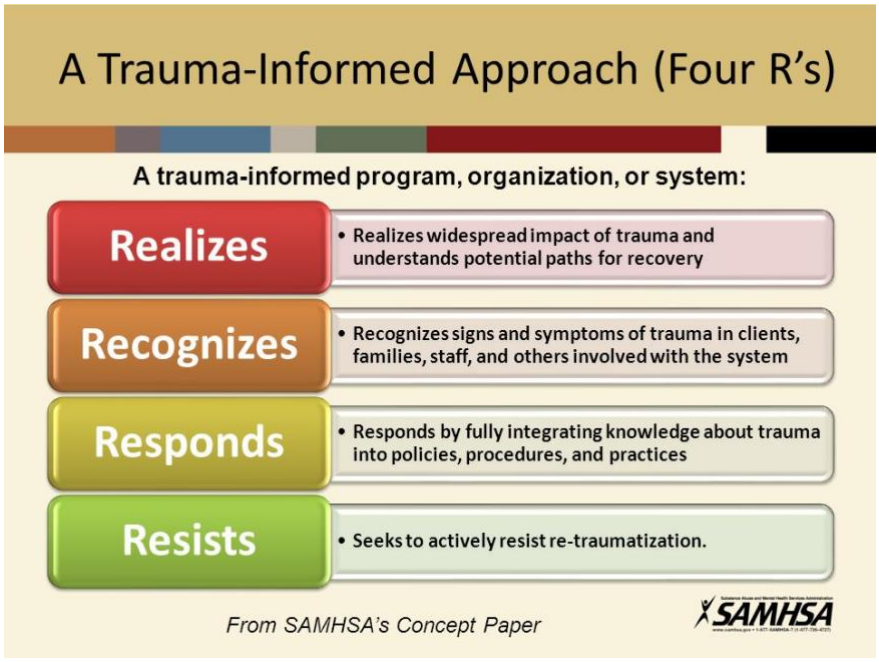

Figure 1: 4 Key Assumptions of TIC Approach from SAMHSA's Concept Paper

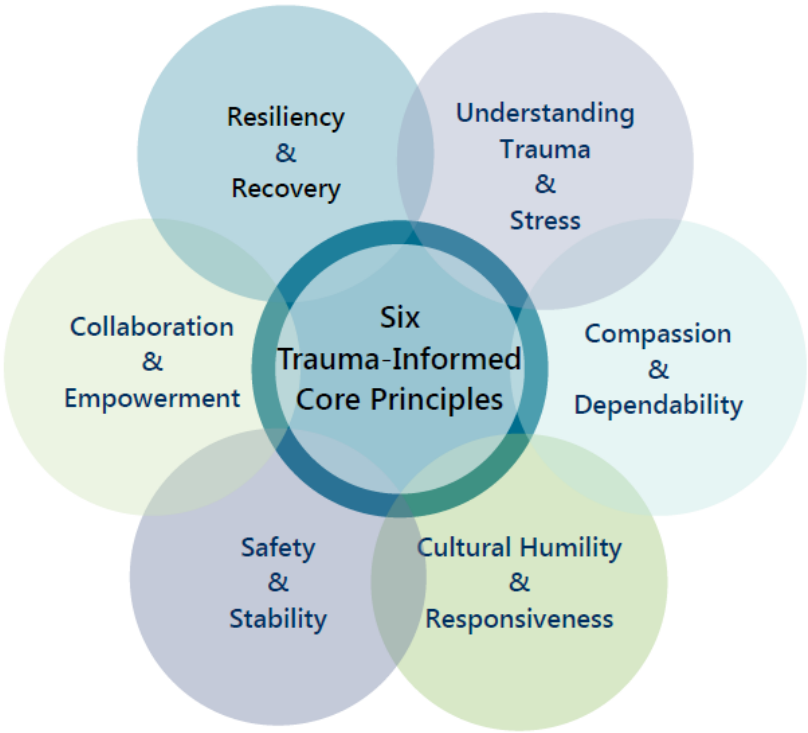

Figure 2: Six Trauma-Informed Core Principles from Santa Clara Country Behavioral Health Services https://www.sccgov.org/sites/bhd-p/Initiatives/T2/Pages/AboutT2.aspx

1.2.3.1. Trauma-Informed Care in Education

Massachusetts and Washington school districts are pioneering the TIC movement for children in K-12. School-age children exposed to ACEs may demonstrate problems with their regulatory skills, social skills, and cognitive functioning in the classroom (Holmes, Levy, Smith, Pinne, & Neese, 2015). Educators have to know what triggers students' emotional and behavioral outbursts in order to address the issue so a safe learning environment exists in the classroom. These faculty are trained, during their didactic and field experiences, with the motives behind the children's behaviors and the faculty are taught preventive techniques and, if necessary, interventions (Crosby, 2015). Cognitive development may also be impacted due to maltreatment leading to a lifetime of challenges (Gould et al., 2012). By knowing the underlying issues behind the behavior and cognitive problems, interventions can be implemented by the faculty and school.

Over the past several years, protocols and laws have been established to assist children in primary education, kindergarten to twelfth-grade, battle this epidemic. In 2016, Governor Kate Brown of Oregon signed House Bill 4002, making it a law, to provide training to kindergarten to twelfth-grade educators. This training included using the 4 Key Assumptions of TIC Approach (Figure 1) and The Six Core Principles (Figure 2) of SAMHSA's trauma-informed approach model to identify and assist K-12 children (House Bill 4002, 2016). However, even though legislation has been enacted to increase awareness of TIC there has a minimal amount of data within the higher education realm to document this increase.

1.2.3.2.Trauma-Informed Care in Nursing Education

Nursing students' education includes didactic and clinical components and trauma-informed care need to be an integral component of both. Educators instruct students regarding

concepts related to nursing care and in turn, the students apply what was learned while in the clinical setting. During their education, various types of experiences are provided for nursing students such as medical-surgical, mental health, maternity, pediatrics, and community health. This wide array of experiences prepares them to become generalists in the field of nursing, giving them the opportunity to work in many different fields after obtaining their degree.

Nurses are employed in a variety of settings with the most common being: the hospital, primary care offices, and community sites. The vast majority of the patients in these settings have chronic conditions. Nursing students learn how to care, advocate, and anticipate the needs of these patients while in undergraduate school. They are taught how to care for patients with chronic diseases and to view the patients in a holistic manner. Connecting the acute conditions to long-term health problems is also a focal point in their education.

Nursing students are taught how to care for these conditions, but there is little focus on the correlation of ACEs to illness. For example, Felitti et al. (1998) discovered survivors of trauma develop these chronic conditions: depression, drug abuse, cancer, autoimmune disease, smoking, obesity, and chronic obstructive pulmonary disease (Monnat & Chandler, 2015, & Audage, 2008). Being diagnosed with one or more of these chronic conditions produces poor health outcomes for a patient with a traumatic history.

The nursing curriculum has not included the possibility of ACEs precipitating these diseases, therefore, nursing students are not even aware of the correlation. The American Nurses Association's *Code of Ethics* (2015) includes advocating for vulnerable populations which increases the need to educate nursing students regarding TIC approaches to best serve those in their care. By viewing their patients through a culture of health lens that promotes good health

and focuses on disease prevention, the student will be able to advocate effectively for trauma survivors.

The TIC approach suggests healthcare professionals and other disciplines view all their patients as survivors of trauma (SAMHSA, 2014). For example, survivors of trauma may not have outward manifestations of the trauma they endured, but this does not make it any less of an issue. Nursing students are taught to view their patients holistically and in a caring manner, which coincides with SAMHSA's definition of TIC. By taking the holistic approach the nursing student must also take into consideration the patients' family and the community in which they reside.

Non-compliant or non-adherent patients are individuals unable or unwilling to comply with their prescribed treatment plan. Prior traumatic experiences may increase the likelihood of noncompliance for a multitude of reasons as research has determined current behavior is influenced by past events and conditions (Korhonen et al., 2015). Treatment and advocacy for non-compliant or non-adherent patients is reviewed during the nursing students' education. However, the underlying cause may not be included. Having nursing students be knowledgeable about ACEs will help them.

1.3. Statement of the Problem

A traumatic history has a profound effect on some patients if they are not resilient. These events may impact a person's cognitive, emotional, and psychological development (Reeves, 2015). Research has identified Adverse Childhood Experiences as the causative agent in multiple negative health behaviors leading to poor health outcomes in patients (Felitti et al., 1998). Patients may not always disclose if they have a traumatic event in their childhood so these underlying issues may impact the patients' health and well-being. Also, these behaviors

and issues may have negative outward manifestations, such as noncompliance or nonadherence to a medical regimen.

For the past two decades, the research has demonstrated the integration of SAMHSA's TIC approaches in the following fields: mental health, correctional health and human services (Branson, Baetz, Horwitz, & Hoagwood, 2017; Chafouleas, Johnson, Overstreet, & Santos, 2016). Not only is TIC incorporated into the curriculum for these professions, but ongoing education of TIC is included within their workforce (Hummer and Dollard, 2010). TIC is an integral component in nursing practice and is lacking in nursing education. Currently, the delivery of TIC content in nursing education is insufficient within the nursing curricula. In order to prepare nursing students for the workforce and the patients they will care for, there needs to be an increase in knowledge of TIC. This study evaluated the impact of integrating TIC into a higher education nursing curriculum and assessing to show expansion in knowledge.

1.4. Purpose of the Study

The purpose of this quantitative study is to add to the much-needed data to the body of research on nursing students' knowledge of trauma and TIC. This was developed because nursing students are engaged with patients in the clinical setting and throughout their career as a nurse so it is increasingly important to educate them on these concepts. The study examined the impact of a trauma and a TIC education session on nursing students in higher education. The researcher examined the nursing student's baseline knowledge of trauma and TIC prior to the education session. The education session was conducted in a higher education classroom with a cohort of enrolled nursing students.

After the delivery of the education session, this study examined if nursing students perceive themselves to be more knowledgeable regarding trauma and TIC. By completing this

research, nursing students have the potential of engaging with patients with a traumatic history without retraumatizing them and having the ability to recognize the correlation of a traumatic history and current health issues. This will increase their competency and confidence to advocate for the survivors. There is limited information on educating nursing students about TIC therefore, this study will add to the body of research.

1.5. Significance of the Study

Noted throughout the literature, there is a widespread lack of understanding regarding trauma, TIC and ACEs and nursing is no different. However, nursing education research literature is lacking and there is a need to add to this body of work. Nursing is a dynamic discipline which is constantly changing and adapting to the latest research and developments. Although multiple studies exist regarding professionals' perceptions of ACEs and TIC in the area of education, corrections, and human services, there are none noted in nursing education. The vast majority of the current research does not focus on students in health care delivery programs, but on health care professionals already in practice. By implementing this study, data were developed to support the need for education in nursing curricula.

In order for novice nursing students to be knowledgeable about trauma, ACEs, and TIC, the curriculum needs to reflect the current trends, evidence-based practice, policies, and laws. Almost two decades ago, a proposition was made to include trauma-informed care into the curricula (Courtois, 2008). On December of 2015, President Obama signed into law S.1177, Every Student Succeeds Act which makes allowances for trauma-informed implementation in the education arena. Through this law, the Project School Emergency Response to Violence program (Project SERV) was developed. This entitles schools to establish or improve programs which support students impacted by trauma and strengthen violence prevention programs (Ko et al.,

2008). In addition, on May 22, 2018, the U.S. Senate passed a resolution, which "recognizes the importance, effectiveness, and need for trauma-informed care among existing programs and agencies at the Federal level" (Senate Resolution 346). These federal programs and agencies dictate regulations and policies as it relates to nursing education.

The need to educate nursing students about ACEs and TIC approaches is evident. Nurses are typically the first point of contact for patients in a variety of healthcare settings. Generally, the patient also interacts with nurses more than any other clinician. An understanding of trauma is integral in the patient's sense of safety and recovery process. TIC offers students an alternative approach to view their patient's behavior and by being trauma-informed, nursing students will be cognizant of issues survivors of trauma face. By acquainting and educating nursing students of the possible negative health conditions derived from ACEs, the nursing students will appropriately develop accurate plans of care for these individuals, as these individuals have a higher propensity of being misdiagnosed.

The patients will benefit from this current study as they will be cared for by educated health care practitioners who are aware of the major role ACEs and TIC play in the determination of health outcomes. Also, nursing students will be knowledgeable of trauma approaches, possibly prevent re-traumatization, and know how to effectively advocate for survivors of trauma. In conducting this study, the gap in existing literature regarding the education of TIC in nursing education is addressed and data are gathered to support future research in higher education.

1.6. Theoretical Framework

The study uses Malcolm Knowles' Adult Learning Theory as the framework (Knowles, 1973). This theory distinguishes itself from pedagogy as it focuses on curricular design and

instruction on adults' acquisition of knowledge, whereas, pedagogy focuses on how children learn. This adult-oriented approach to learning is called andragogy and it has six core principles which focus on adults' needs and experiences. The core principles are: learners need to know, self-concept of the learner, prior experience of the learner, readiness to learn, orientation to learning, and motivation to learn. Figure 3, Andragogy in Practice, provides a visual of the core principles Knowles developed. Being knowledgeable regarding nursing students' motivation to learn, past experiences, and preparedness helps the researcher develop and implement the educational session for the study. By being aware of the subjects learning style, the educator can develop appropriate teaching tools to be effective.

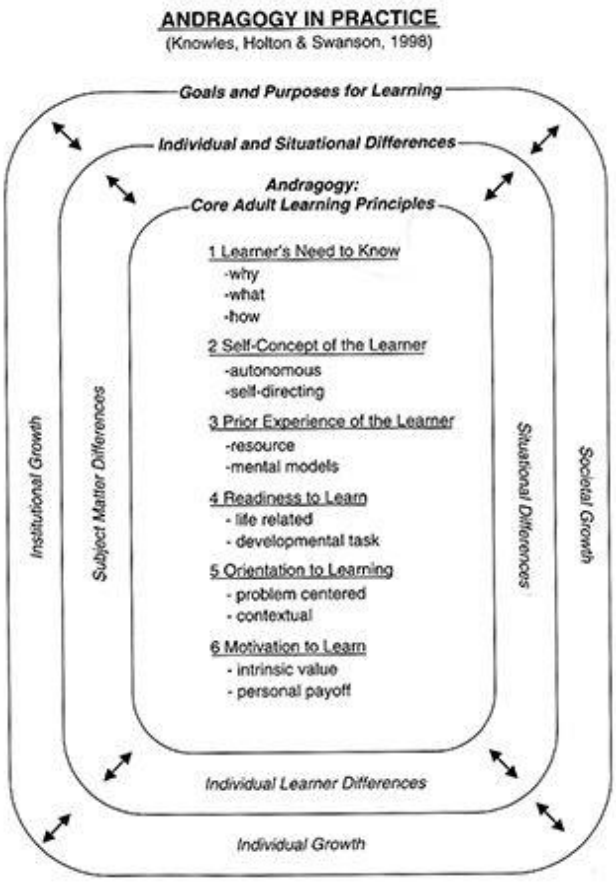

Figure 3: Andragogy in Practice (from Knowles, Holton and Swanson, 1998)

1.7. Research Question

The research question for this study are as follows:

Research Question I: What impact will an educational session have on nursing students' knowledge acquisition regarding trauma, trauma-informed care, and trauma-informed care approaches in patient care delivery?

1.8. Hypothesis

The null and alternative hypotheses are as follows:

1.8.1. Null hypothesis: No difference exists in the acquisition of knowledge regarding trauma, trauma-informed care, and trauma-informed care approaches in patient care delivery as demonstrated in the pre-survey and post-survey.

1.8.2. Alternative hypothesis: A difference does exist in the acquisition of knowledge regarding trauma, trauma-informed care, and trauma-informed care approaches in patient care delivery as demonstrated in the pre-survey and post-survey.

1.9. Definitions of Terms

The following definitions apply throughout this study:

Adverse Childhood Experiences (ACEs) - Adverse Childhood Experiences identified the correlation of negative events experienced in childhood to the poor health outcomes of adults. The study was developed to ascertain if an individual, during childhood, experienced physical abuse, psychological abuse, sexual abuse, emotional abuse, divorced parents, domestic violence of a loved one, incarcerated family member, and/or lived with a person with mental illness, alcoholism, drug abuse (Felitti et al., 1998).

Determinates of Health – Determinates of health is an ecological approach which views the social factors and physical conditions that make a person healthy or unhealthy (Office of

Disease Prevention and Health Promotion, 2019). This occurs throughout one's lifetime and is not just an isolated event. Also, it is determined by circumstances and the environment, like access to healthcare in a rural area or low education levels in certain areas which lead to poorer health (National Prevention Council, 2011).

Noncompliance - Noncompliance medical terminology refers to a patient not complying with the prescribed regime (Noncompliance, 2018).

Substance Abuse and Mental Health Administration (SAMSHA) - SAMSHA was created by Congress in 1992 to promote behavioral health and support at a national level (SAMHSA, 2014).

Survivor - a person who is able to continue living their life successfully despite experiencing difficulties (Survivor, 2018). The term survivor is used throughout this paper identifying those individuals who have experienced trauma.

Trauma - SAMHSA defines trauma as the result from an event, series of events, or set of circumstances experienced by an individual as physically or emotionally harmful or life-threatening with lasting adverse effects on the individual's functioning and mental, physical, social, emotional, or spiritual well-being American Psychological Association [APA] (2013).

Trauma Informed Care (TIC) - Trauma Informed Care is an approach developed by SAMSHA where all healthcare revolves around the concept of being aware and sensitive to the existence of a patient's trauma (SAMHSA, 2014).

Triggers - In Psychology, triggers refer to the stimulus of a traumatic event resulting in an individual to experience anxiety, panic or stress. It varies from individual to individual and the person may avoid certain situations if they feel they may trigger an adverse memory. This is also referred to as a flashback.

1.10. Limitations of the Study

As with all research, some limitations are inevitable. During the process of conducting this study, several limitations were recognized. First, the population studied involved a nonrandomized, purposeful sample due to time constraints and availability of subjects. This, itself, decreases the external validity and generalizability of the study as it does not represent the nursing student population as a whole (Cresswell & Cresswell, 2017). However, Etikan, Musa, and Alkassim (2016) point out this type of non-random, purposeful sampling may lead to bias. Generalizability of the results can only be applied to the nursing student population. However, the lack of research in this population may lead to future studies. This study was conducted during one semester, so time is a limitation in itself. Also, the sample size of subjects could be considered a limitation as the maximum number of subjects is limited to the students currently enrolled in an associate degree of nursing program during one semester who had successfully completed the previous course.

A limitation of a quasi-experimental design is a lack of a control group. By not having a control group, the researcher is unable to compare and contrast the results with the test group, therefore decreasing the strength of the research validity (Heale & Twycross, 2015). This research is specifically assessing if learning occurred in a particular group and in a particular setting. No random assignment occurred. Therefore, other factors potentially could influence the results. For example, from the group of nursing students in the study, there may have been some nursing students with prior exposure to trauma and TIC. These exposures or experiences are out of the researcher's control.

Also, the population is currently enrolled nursing students at a college making it generalizable to mainly other nursing students in other higher education. These students have

also taken the required pre-requisites required to enter the nursing program which may have included the trauma or TIC in the content.

The survey, which was constructed for this study, was not used in a previous study to verify validity and reliability. However, a pilot was performed. Using a Likert scale also limited the subjects' responses and a mixed methods approach could have yielded different responses, thereby generating different results.

Also, the researcher only chose nursing students enrolled in a mental health nursing course which limits the population. This may limit the generalizability of the results due to sample size and population, as having a larger sample size at multiple institutions of higher education will increase the generalizability of this study. However, due to time constraints, this was not possible. Furthermore, a purposeful sample was used which does not represent the whole nursing student population at the institution. Including the whole nursing population would have yielded different results as some nursing students in higher level classes have learned about TIC in other coursework. A sample size of fewer than eighty impacts the generalizability of this study. According to Chow, Shao, Wang, and Lokhnygina, (2017), "in clinical research, sample size calculation plays an important role for assuring validity, accuracy, reliability, and integrity of the intended clinical study" (p. 1).

1.11. Delimitations of the Study

The aim of this study is to determine if knowledge acquisition occurred after a TIC educational session occurred. More specifically, what impact did the education session have on a cohort of nursing students enrolled in a mental health course at an institution of higher learning. The first identified delimitation is the duration of the study. The survey was implemented and the education session was administered during a mental health nursing course. Due to the fact,

the researcher conducted the research during the scheduled course time limits the time the research had to complete the study.

Second, the researcher chose a specific cohort of students, leading to selection bias which was unavoidable. The researcher used purposeful sampling; therefore, the population being studied might not be an accurate representation of nursing students in institutions of higher education. The education session was not offered to any other nursing course in the college, as the concept of trauma is taught in the mental health course only. Only one campus from the college was chosen to complete this study due to schedule limitations. The survey was only available in English, and the institution where the research was conducted has a population of students where English is a second language. The instrument used, a Likert scale, only allowed attitudes to be measured and did not allow subjects to respond freely as a mixed methods design would allow.

The researcher chose to complete a quantitative study to expound on the miniscule amount of research available. By choosing this method, the data supported the need for trauma and TIC in the curriculum of other nursing schools of higher education. Qualitative and mixed methods were not chosen as a research design due to time constraints. Also, at this point in the research, more evidence needs to be established regarding the impact of teaching sessions of the content before themes are identified.

1.12. Summary

A description of the following four chapters is as follows. In Chapter two, the topics discussed include a comprehensive review of the literature on trauma, its impact and the necessity of trauma-informed care in nursing education. Chapter three contains topics discussed including the research design and details how the study was conducted. Followed by Chapter

four which will provide the results from the study and Chapter five will contain the conclusion and recommendations.

Chapter II: Review of Literature

2.1. Introduction

Contained in this chapter is a review of the literature. By completing the review of the literature, the term trauma-informed care was queried using Google Scholar with 1,800,000 results. However, a significant gap in knowledge is noted when the researcher completed an EBSCOhost query on trauma-informed care in student nursing education as no documents were identified.

In this review of the literature, the following will be discussed. Trauma will be defined and its physical, emotional, psychological and cognitive impact will be discussed, as well as ACEs. SAMHSA framework, Knowles theory and how they applied to this research project; also, how organizations and education have already integrated TIC into their organizations will be discussed. Finally, the importance of TIC as it relates to nursing education will complete this chapter.

2.2. Trauma

Trauma has many definitions and interpretations. According to Greenwald (2005), trauma is defined as an individual's fear created from a stressor which a person perceives as threatening. Hoch, Stewart, Webb, and Wyandt-Hiebert (2015) expand upon this definition to describe trauma as an event or a series of events in which an individual is unable to cope with external stressors due to inadequate internal resources. SAMHSA (n.d.) defined it as an individualistic event which may be an isolated event or ongoing abuse, occurring recently or in the past, in which the insidious effects are long-lasting. Furthermore, SAMHSA continued to describe the event(s) as they may impact the individual's physical, emotional, or psychological health with the reactions vary according to age.

These traumas may be perceived differently as everyone is individualist in nature. How one responds to the traumatic event or events depends upon their life experiences, their coping mechanisms and skills, and their support systems (Oral et al, 2015). So, by educating nursing students about trauma during their undergraduate studies, when they become licensed nurses they will comprehend the fact that when patients feel safe, understood and empowered, they will participate more fully in their own self-care.

2.3. Adverse Childhood Experiences

Dr. Felitti, the founder of the Department of Preventive Medicine for Kaiser Permanente, conducted health risk abatement programs in San Diego for individuals with obesity in the 1990s. During this time, he discovered approximately half of the participants discontinued their involvement in the program without successful completion. Upon interviewing those participants who discontinued their participation, it was discovered, through their self-disclosure, they had a commonality of a history of sexual abuse. Upon this discovery, Dr. Felitti paired up with Dr. Anda of the CDC to assess what other events impacted an individual's long-term health.

In Dr. Felitti and Dr Anda's seminal research, *The Relationship of Adult Health Status to Childhood Abuse and Household Dysfunction* (1998), they discovered a link to many of the leading causes of death in adults stemming from difficult childhoods. Also, in *The Adverse Childhood Experiences (ACE) Study* (1998), a correlation was discovered relating pernicious childhood experiences to poor health outcomes later on in adulthood. From 1995 to 1996, Dr. Felitti and Dr. Anda of the CDC sent a questionnaire to over 17,000 health insurance participants from the San Diego area. They received a 70.5% response rate with the average population representing insured, Caucasian, middle-class adults, with an average age of 57. A second wave

of questionnaires was sent out with approximately the same response rate in 1997. After exclusions, the final participants consisted of 59.7% of the surveyed population.

The Adverse Childhood Experiences questionnaire the researchers developed used a retrospective approach identifying categories of past childhood trauma (Felitti et al., 1998). These categories were: three forms of abuse (emotional, physical, and sexual); two forms of neglect (physical and emotional); and four types of household dysfunction (witnessing domestic violence, a household member who is mentally ill or abusing illegal substances, parental divorce, or incarceration of a loved one). Since the average population studied was fifty-seven years old, they were reporting regarding the events which occurred almost fifty years prior.

Dr. Felitti and Dr. Anda developed the survey questions used in their study from several published surveys in existence at that time. This questionnaire measured the incidences of childhood traumas an individual experienced and scored each positive response as one ACE (Felitti et al., 1998). The results from the questionnaire were then compared to the health appraisal results from the participants' most recent health assessment. The findings revealed exposure to trauma, whether it be direct or indirect, led to an increase in chronic disease, risky behaviors, and a decrease in cognitive ability.

The results from the study concluded that ACEs, even though common, are typically enshrouded in secrecy and have long-term negative health effects. It was discovered that half of the respondents had at least one exposure to an ACE and one fourth had two exposures to an ACE (Felitti et al., 1998). One notable finding of the ACE study is, as the number of ACEs increased, the incident of health problems also rose (Felitti et al., 1998). This direct correlation increases the probability and likelihood of a survivor developing chronic health problems or engaging in risky behaviors (Felitti et al., 1998). These chronic health conditions have been

identified as chronic obstructive pulmonary disease, diabetes, cancer, depression, and/or heart disease. High-risk behaviors are smoking, illicit drug use, suicide, multiple sexual partners, and/or unintended pregnancy (Felitti et al., 1998). These negative childhood events impact an individual's cognitive, emotional and physical development (Anda et al., 2006).

The CDC (2010) conducted a follow-up study, *Adverse Childhood Experiences Reported by Adults — Five States, 2009* which analyzed data from a randomized population instead of a purposeful one like the original ACE study. It reviewed data results from the Behavioral Risk Factor Surveillance System (BRFSS) which was administered in Arkansas, Louisiana, New Mexico, Tennessee, and Washington. The BRFSS is a system of health surveys conducted by individual states health department in collaboration with the CDC. This cross-sectional telephone survey was conducted on individuals residing in the aforementioned states. The telephone surveys included questions which focus on health-related behaviors, preventive medicine, chronic health issues and access to healthcare of non-institutionalized individuals 18 years and older.

Results from the study are as follows (CDC, 2010). The response rate ranged from approximately 49-60% with 41% reporting no ACEs and 22% reporting one ACE. This is a significant difference from the original study Dr. Felitti and Dr. Anda conducted (1998). The CDC also examined the participants' demographics to assess the implications and correlation they play in the existence of ACEs. For example, 16.9 % of the 18-24- year olds in the study reported they had been sexually abused, whereas 9.6% of those greater than 55 reported they had been sexually abused. Also, more women reported being sexually abused than men. The results support Dr. Felitti and Dr. Anda's findings. The dose-response relationship or exposure-response relationship directly corresponds to the prevalence of individuals with ACEs with health

disparities. This information is important when states are determining what programs will be funded to assist those in need.

In 2012, Monnat and Chandler (2015) also completed a follow-up ACE study on 52,250 adults living in fourteen of the fifty states by using survey data from the Behavioral Risk Factor Surveillance System (BRFSS). In this study, it was found over half of the respondents reported one ACE, with verbal abuse being the most common trauma. Fourteen percent reported fair to poor health with one-fifth having a limited activity due to physical or mental issues. They also suggest a direct correlation of socioeconomic status, childhood adversities and their impact on adult health. For example, adults may develop maladaptive behaviors like potential persistent stress, smoking and substance abuse as coping mechanisms for their childhood adversities.

Most recently, Merrick, Ford, Ports, and Guinn (2018) from the CDC completed a longitudinal study of the survey data from the Behavioral Risk Factor Surveillance System (BRFSS) from 2011- 2014 examining the prevalence of ACEs in twenty-three states. This updated study mirrors the CDC study completed in 2009 except it had a larger population, was done over a longer period of time, and the BRFSS included the ACE assessment in the data collection. The findings were slightly different as the study had a larger population and examined the individuals' demographics as they related to the data. The researchers found almost 62% had one ACE and approximately 25% had three or more ACEs. Emotional abuse was the most reported ACE, with parental divorce/ separation and household substance abuse close. Those with less than a high school education, earning less than $15,000 annually, minorities, unemployed and those identifying as bisexual or gay/lesbian had a higher percentage of having an ACE than educated, middle class, heterosexual Caucasians. They suggested

identifying those highest at risk so they can receive preventive services and prioritizing primary prevention services to serve those with the greatest need.

2.4. Impact of Trauma

Addressing the pervasiveness of the prevalence of trauma is important. In the original ACE study, 52% of the participants identified at least one ACE during their childhood (Felitti et al., 1998). According to the National Survey of Children Exposed to Violence (Finkelhor, Turner, Shattuck, & Hamby, 2015), 60% of children in K-12 have been exposed to a traumatic event in the past year. This study also discovered ten percent of these children have been exposed to five or more ACEs. More recently, in 2016, Child Protective Services received 4.1 million referrals which are significant considering there were only approximately 54 million children in the United States that year (U.S. Department of Health and Human Services, Children's Bureau, February 1, 2018). These facts and figures are astounding and these resilient children are trauma survivors and will be impacted for the rest of their lives.

Survivors of trauma may react differently to situations and noises, triggers, as they may remind the survivor of the adverse childhood event. Identifying triggers is necessary when discussing the impact of trauma on survivors. A trigger, or trigger stimulus, may be a sound, smell or sight that sparks a previous memory of a traumatic experience (Lahad & Doron, 2010). This trigger will then manifest into thoughts or feelings of the past experience as if it were currently occurring at that moment for the individual (SAMHSA, 2014). Triggers initiate immediate responses for the individual such as: nervousness, agitation, intense fear, and/or panic attacks (Maschi, Baer, Morrissey, & Moreno, 2013). The individual may feel as if they are reliving the trauma all over again when triggered from later life stressors or anniversary of the

traumatic event (Maschi, Baer, Morrissey, & Moreno, 2013). This research substantiates the harmful long-term consequences of the trauma and ACEs.

Evidence based research provides undeniable data connecting traumatic events to health disparities throughout one's lifetime. When discussing the impact of ACEs, one needs to recognize the strong correlation of dose-response relationship to childhood trauma. Dose-response relationship refers to the quantity , or number, of exposures to ACEs and the risk for developing long-term poor physical and mental health outcomes (Pulvino et al., 2015). Felitti et al. (1998) stated, a patient having even one ACE will predispose that patient to a multitude of medical issues. Baker et al. (2012) support this claim by adding, trauma not only has psychological but physical consequences as well.

2.4.1. Biological

Bellis and Zisk (2014) explored the biological effects and consequences of childhood trauma. Developmental traumatology is the framework used in the article and it is "the systematic investigation of the psychiatric and psychobiological effects of chronic overwhelming stress on a developing child" (p. 446). This is when physiological changes occur to the developing brain of a child when it is confronted with stress inducing events. During a stress induced event, the sympathetic nervous system prepares the body to fight or flight. When this occurs, the brain releases hormones such as epinephrine and cortisol (Bellis and Zisk, 2014).

Harrington (2012) describes the physiological events which occur when an individual is stressed. The biological stress response causes epinephrine to increase in heart rate and blood pressure, constricts the blood vessels to the body and lungs, and releases glucose into the blood supply. Another hormone, cortisol, is also released by the sympathetic nervous system which prompts the body to increase the release of glucose to supply the body with extra energy to deal

with the potential stressor. Cortisol also narrows the arteries which forces blood to pump harder and faster. However, when the stressful event does not go away or get resolved, it can lead to long term problems.

The authors also identify chronic pain, gastrointestinal problems, and immune issues as long-term health problems. Furthermore, trauma can lead to several comorbidities such as blood sugar imbalances, weight gain and obesity and cardiovascular disease (Bellis & Zisk, 2104). These biological conditions are directly correlated to poor determinates of health.

2.4.2. Psychological

The reaction to trauma is subjective for each individual and may elicit different emotional responses. If an adverse event occurs during an individual's childhood and remains unresolved, it may alter their sense of safety and security (Buckley, Lotty, & Meldon, 2016). When a survivor experiences a trigger, their brain is overwhelmed by the traumatic event and the survivor is unable to focus on the present as there are reliving the past event.

The body's dysregulation of this response to stress can lead to an increase in the susceptibility of chronic emotional and psychological effects. This may manifest itself as mood disorders, depression, and anxiety (Guilliams & Edwards, 2010). Bellis and Zisk (2014) also go on to discuss the neurobiological responses which occur in the body of an individual with a history of childhood trauma. They identified post-traumatic stress disorder, depression, disruptive behaviors, suicidal tendencies and substance abuse in those who have experienced trauma. Reactions may produce various symptoms like anxiety and depression and/or maladaptive behaviors such as smoking, illicit drug use, promiscuous sexual behavior, or heavy drinking (Pulvino et al., 2015). In a national sampling of adolescents, McLaughlin discovered the correlation of psychiatric disorders in 47% of children and 32% of adolescents who

encountered childhood adversities (2012). This inability to manage behaviors and emotions directly impacts daily functioning.

Since trauma is an individualist event, then the way each individual copes with the trauma is subjective. Support systems and the environment in which an individual is raised plays a huge role in how the individual responds to a stressful event.

2.5. Impact of Trauma on Chronic Health Issues

Chronic diseases typically have long latency periods and persist throughout an adult's lifetime. The chronic disease will need to be continuously monitored and a prescribed treatment plan will need to be established. Even with a treatment plan, the chronic disease may lead to disability and premature death. Traumatic events have a direct correlation with chronic disease as identified by Drs. Felitti and Anda.

Kalmakis and Chandler (2015) found those with at least one ACE utilized the healthcare system more often than those with no ACEs. Whereas those diagnosed with Chronic Obstructive Pulmonary Disease and had five ACEs used the healthcare system twenty percent more than the average individual (Anda et al., 2010). During the original ACE study, autoimmune disorders were identified as a negative outcome of trauma (Felitti, 1998). Dube et al. (2001) also discovered patients with select autoimmune diseases and with two or more ACEs are at 70% increased risk for hospitalization instead of outpatient medical management. This indicates these individuals have a higher probability of negative health outcomes as hospitalization typically occurs when the disease is unable to be managed in an outpatient setting.

Lovallo (2015) identified the long-term impact and physical manifestations of stress on an individual's body. The body produces epinephrine and cortisol in times of stress. Persistent or chronic elevation of epinephrine and cortisol caused by ACEs increases the probability of the

individual developing long term health issues. These hormones elevate an individual's blood sugar and blood pressure. The elevated blood sugar leads to diabetes, the increase in high blood pressure and blood vessel constriction leads to hypertension and heart attacks, and the constriction of blood vessels to the lungs leads to Chronic Obstructive Pulmonary Disease.

Stokes et al. (2017) suggested patients have an increase in medical issues if the patient has a history of trauma. Additionally, Dong et al. (2004) stated an individual with four or more ACEs had a two to three-fold probability of developing coronary disease than an individual with no ACEs. Also, an individual with four or more ACEs will have a higher propensity for smoking, as it is a common coping mechanism, which can lead to lung disease (Mingione, Heffner, Blom, & Anthenelli, 2012). Significant physical health concerns as they relate to ACEs have been identified throughout the literature.

2.6. The Impact of Trauma on Learning and Behavior

The brain is not fully developed at birth and it can be negatively influenced, impacting children academically, physically, emotionally, and how they conduct themselves (Massachusetts Advocates for Children, 2009). Physically and chemically, the body is altered when exposed to vast amounts of stress from trauma, especially if the trauma occurred very early in childhood (Creeden, 2009). Anda et al. (2006) go on to discuss how the body's natural response to stress has a synergistic impact on the developing brain leading to changes in memory, cognition, and behavior. De Bellis et al. (2015) also discovered the brain is actually smaller in children with exposure to chronic trauma and posttraumatic stress disorder. They postulated this is because the brain and its structures grow and develop at a fast pace from birth to five years of age making children more impressionable to negative events (Dubois et al., 2014).

According to Carello and Butler (2014), violence and trauma impact an individual's ability to learn by altering their cognitive function. Owens and Tanner (2017) discovered memory is affected when excessive cortisol is released from the brain, impeding the brain's ability to process new information. This leads to students not only having lower IQ levels, but also having learning and cognitive disabilities (Goodman, Quas & Ogle, 2010). Additional studies have shown exposure to violence has a direct correlation to a lower IQ level and ability to read at grade level (Perfect et al., 2016).

In the classroom, the learner may present himself/herself as inattentive or anxious, however, he or she may be in survival mode which is a constant state of fight or flight (Van der Kolk, 2017). The survivors may be reacting to a trigger making them hyper-focused. This will lead them to be inattentive in the classroom as they are focused on the possible danger or threat (Zaleski, Johnson, & Klein, 2016, Joubert, Webster, & Hackett, 2012). This stress inhibits memory and processing of information in the classroom (Baker et al., 2007). Children may have a decreased ability to maintain control over their behaviors and act appropriately in the classroom; may have poor self-regulation in managing emotions in the classroom and with others or they may be misdiagnosed with attention-deficit/hyperactivity disorder because of their behavior (Ritchie, 2017).

A history of trauma alters a student's academic trajectory in many ways. For example, an individual with a traumatic past has an increase in school absences (Perry & Daniels, 2016). By not attending, students are unable to acquire the knowledge needed to pass the required classes. According to the National Center for Educational Statistics, the dropout rate for the United States was 6.1%; however, Putman (2006) discovered children with a traumatic past had three times

higher likelihood of not graduating high school. Both of these factors have a direct correlation with a decrease in graduation rates for this population (Perry & Daniels, 2016).

2.7. Theoretical Frameworks

Theoretical frameworks are integral when developing, planning, and implementing research. The foundations grounded in this dissertation are the trauma-informed framework and the Adult Learning Theory. The concept of trauma-informed was discussed in relation to the well-documented need of nursing students to be knowledgeable regarding ACEs and the long-term impact. Malcolm Knowles' Adult Learning Theory (Knowles, 1973) was also included as it relates to the nursing students and how the researcher developed the education session.

2.7.1. Trauma-informed Framework

SAMHSA's trauma-informed framework was used during the development and composition of the education session. SAMHSA is a department within the United States Department of Health and Human Services and has been studying, supporting and developing programs to assist survivors of trauma. This institution has been instrumental in the creation of a framework to provide services and support trauma survivors and the progression of trauma awareness. Many researchers have identified individuals impacted by ACEs in turn, many health specialists have implemented TIC approaches into their practices.

Due to the nature and responsibility of this mental health administration, SAMHSA developed trauma-informed approaches to be implemented by those caring for survivors of trauma and ACEs (SAMHSA, 2014). SAMHSA described an ACE as a "stressful or traumatic experience, including abuse, neglect and a range of household dysfunction such as witnessing domestic violence or growing up with substance abuse, mental illness, parental discord, or crime in the home" (n.d.). The trauma-informed approach includes six key principles and four key

assumptions. The six principles are as follows: 1) safety; 2) trustworthiness and transparency; 3) peer support; 4) collaboration and mutuality; 5) empowerment, voice and choice; and 6) culture, historical, and gender issues. The four Rs are defined as: realize the impact of trauma, recognize the presentation and symptomology of trauma, respond by integrating a key principle, and avoid re-traumatizing. The four key assumptions were applied during the education session.

2.7.2. Adult Learning Theory

Malcolm Knowles developed the Adult Learning Theory in 1968 where he identified six core principles adults need to possess in the process of learning. The six core principles or characteristics of the adult learner are: the need to know, self-concept, life experience, readiness to learn, orientation to learning, and motivation. The first characteristic of this theory is the need for adults to understand why they need to know a topic. By identifying the importance and relevance of the material being taught the learner was engaged. The relevance of the material being presented also needs to relate to the learner's life experiences and previous knowledge for them to construct their own understanding of what is being presented. By recognizing adults are internally motivated, self-directed, and responsible for their own learning allows active learning to occur. These six core principles and the process of learning were applied during the development of the education session.

2.8. Integration in Organizations

As trauma awareness grows, so do the development of organizational programs to support the survivors and the implementing trauma-informed care. Knowledge of TIC is necessary, but implementation of TIC approaches is incumbent to improve the lives of survivors. Organizations have developed programs and policies to increase TIC approaches in response to

national laws. Integration of trauma-informed care and approaches is more prevalent in social work, education, and correctional institutions and organizations.

It is important for individuals to understand the history of the integration of TIC approaches. In response to the Children's Health Act of 2000, Congress established the National Child Traumatic Stress Network (NCTSN) to increase access to services for children who are survivors of trauma. Since its inception, the NCTSN has educated and trained over one million individuals about TIC, provided resources and services to these individuals and families, partook in data collection and evaluation, and informed policy. The creation of trauma-informed systems is a main priority of NCTSN and its focus is the implementation of TIC in organizations and institutions that serve individuals.

Another organization assisting those affected by trauma is the Robert Wood Johnson Foundation. The Robert Wood Johnson Foundation provides grant funding for various organizations which focus on healthy communities and children (Morrissey, Calloway, Bartko, & Ridgely, 1994). The Center for Health Care Strategies and The Robert Wood Foundation developed the Advancing Trauma-Informed Care initiative. This national initiative focuses on understanding how the health sector can integrate trauma-informed approaches. Included in the pilot study are six trauma-informed organizations which have a strong commitment to those who have experienced trauma (Morrissey, Calloway, Bartko, & Ridgely, 1994). Four of the six organizations provided primary and behavioral health services, another was a public health department, and the last was a partnership with a children's hospital and a school. These institutions were located in low-income areas where the community of patients had a higher propensity to have a history of trauma. The institutions were provided extensive technical

assistance and participated in a learning-commons with one another to establish best practices for trauma-informed care (Center for Health Care Strategies, 2015).

As part of the Advancing Trauma-Informed Care initiative, the Urban Institute selected six organizations which had already implemented TIC approaches and conducted interviews with the staff and selected stakeholder (Center for Health Care Strategies, 2018). Several themes were discovered when the interviews were coded. The first theme identified was the chosen institutions were already focused on becoming trauma-informed so the leadership was invested in the process. The next theme identified was using universal precautions with all patients even if they did not have a trauma history. Universal precautions are defined as approaching all patients as if they had a traumatic history and making the patient spaces reflect a relaxing and calm environment. Finally, the vast majority of the participants felt TIC was an evolving process which continually require evaluation to improve patient outcomes.

2.8.1. Integration in Healthcare Settings and Corrections

Since the 1990s, TIC and approaches have been studied by multiple disciplines and in a variety of settings. However, implementation and integration have only occurred in a few. For example, TIC is being implemented in various specialties such as emergency setting (Hall et al., 2016), judicial system (Miller, & Najavits, 2012; Harner & Burgess, 2011), pediatrics (Marsac et al., 2016, Kassam-Adams et al., 2015), primary care (Machtinger, Cuca, Khanna, Rose, & Kimberg, 2015), social work (Knight, 2015) and mental health (Harris and Fallot, 2001; Muskett, 2014). The following include how some of these specialties incorporate TIC.

The judicial system has created a technical assistance bulletin in collaboration with The National Child Traumatic Stress Network addressing the traumatic histories of the juveniles in their care (Buffington, Dierkhising & Marsh, 2010). This bulletin was written in response to the

high number of repeat offenders of juveniles with a history of ACEs. Also, it is the courts' duty to protect and rehabilitate juveniles and for judges to recognize the impact trauma plays in the lives of the children. There are a large number of research studies pertaining to trauma and/or ACEs and the correctional system.

In Branson, Baetz, Horwitz and Hoagwood's *Trauma-informed juvenile justice systems: A systematic review of definitions and core components,* the researchers completed a review of the literature to determine a current definition and recommended specific trauma-informed practices or policies (2017). The purpose of this research was in response to the U.S. Department of Justice's call to action regarding the development of trauma-informed juvenile justice systems. The researchers conducted a review of the literature and identified 950 articles regarding TIC and the juvenile justice system. However, after implementing the inclusion requirements, those articles which contain the four key assumptions and six principles of TIC, only ten articles were identified which met the inclusion requirements.

Researchers found TIC is not widely practiced, even though there is a high understanding of TIC and practices (Courtois, 2008; Crosby, 2015; Hayes et al., 2010; Muskett, 2014; Purtle and Lewis, 2017). The researchers also explored what definition the articles included as there is not one definitive definition of TIC in the juvenile justice system which has been agreed upon. In the ten articles, there were 71 policy and practice recommendations. Some of the recommendations are as follows: screening and assessment, services and interventions, cultural competence, youth and family involvement, workforce development, promoting a safe agency environment, and system-level policies and procedures.

Next, Raja et al. (2015) identified two domains which are prevalent in primary care; these are universal precautions and trauma specific care. Universal precautions are applied to all

patients practitioners interact with, whereas trauma specific care is only applied to those patients identified as survivors of trauma. Universal precautions are described as approaching all individuals as if they are survivors of trauma. By implementing universal precautions, practitioners are able to avoid re-traumatizing patients and decrease a patient's anxiety during the office visit (Coles and Jones, 2009). When a patient self identifies or if the practitioner screens for ACEs, the practitioner is able to implement trauma specific care (Goldstein, Athale, Sciolla, & Catz, 2017; Miller, & Najavits, 2012). This care then potentially allows recovery for trauma survivors by implementing successful interventions to aid in the healing process (Covington, 2008).

According to Machtinger, Cuca, Khanna, Rose, and Kimberg (2015), many primary health care settings have instituted routine trauma screening for patients in their practice. By having this screening in place, primary care physicians will have to be proficient at collaborating and referring to other healthcare professionals to assist these survivors (Goldstein, Athale, Sciolla, & Catz (2017). Farley and Patsalides (2001) recommend using universal trauma precautions with all patient's healthcare providers come in contact with on a daily basis. These universal trauma precautions establish trust between the health care provider and the patient.

Seng et al. (2009) conducted a study examining the impact of trauma as it related to Post Traumatic Stress Disorder (PTSD) in women's health care. The sample studied were pregnant women expecting their first child. They deduced women who have had a traumatic childhood experience and developed PTSD had an increased obstetric risk such as substance use, intimate partner violence, and late prenatal care. The study also identified women with PTSD may display outward signs or symptoms due to the intimate nature of the examinations and the

pregnancy itself. Most importantly, the researchers found three to fifteen percent of pregnant women receiving obstetric care have PTSD.

Additionally, social workers most often work in a healthcare clinical setting such as clinics, hospitals, nursing homes, addiction clinics, and counseling. Social work practitioners promote advocacy and understanding of the impact of social factors in their patients' lives. According to Knight (2015), trauma-informed social work practice incorporates TIC approaches as effective strategies when interacting with their clients. These effective strategies include: normalizing feelings, understanding the emotional impact of the past, empowerment, and challenges. By employing these techniques to help the patient relax and being knowledgeable regarding the neurophysiological changes from ACEs enables social workers to validate the patient. Also, social workers are able to empower the patient to manage issues as they occur instead of reacting to the situation.

Furthermore, mental health workers recognize the positive impact of TIC and were one of the first to implement trauma-informed care approaches. Hummer, Dollard, Robst, and Armstrong (2010) conducted a case study where they demonstrated the change in culture at three Medicaid funded out-of-home mental health treatment centers that currently implement trauma-informed care. The discussion focused on the importance of trauma-informed care in the mental health setting and continual self-assessment. One of the populations in the case study were children screened to identify any ACEs, which would allow for the development of a treatment plan. During the case study, the researcher identified that staff education related to trauma decreased the probability of re-traumatizing the participants. At the conclusion of this study, the researchers developed best practices and field-based standards to implement in out-of-home mental health treatment facilities.

2.8.2. Integration in Education

Schools and teachers are educating students who have been identified as trauma affected (Brunzell, Stokes & Waters, 2016). These educational systems and faculty have been on the forefront of caring for and educating children who have a range of behavioral issues and trauma induced symptoms. In fact, children in K-12 are not screened or assessed routinely for trauma (Blodgett, 2012; Brunzell, Stokes, and Waters, 2016), but teachers and administrators are acutely aware of the role trauma plays in the lives of the children in their school. According to Phifer and Hull (2016), primary schools are implementing trauma-informed strategies which include supplemental support and individual interventions. Unfortunately, this does not always translate to higher education.

In Blodgett's (2012) paper, *Adopting ACEs Screening and Assessment in Child Serving Systems*, he discusses the screening and assessment strategies from studies conducted at Washington State University. Collaboration between tertiary behavioral health and school systems have focused on school-based service delivery. This includes professional development for faculty and staff, evidence-based trauma-informed classrooms, and trauma-informed plans for students. The U.S. Department of Justice and the Bill and Melinda Gates Foundation are funding these initiatives. Also, the states of Oregon and Wisconsin are also promoting TIC mental health services to assist their students (Becker-Blease, 2017).

Nationwide, schools have been established that focus on implementing TIC at the primary and secondary level. For example, Harvard Law School and the Massachusetts Advocates for Children developed the Trauma and Learning Initiative for the state of Massachusetts to assist those affected by trauma are successful in school. They provide advocates in the schools for trauma sensitivity training and policy agenda to guide other schools

to establish a trauma sensitive school. Illinois also has implemented TIC in the K-12 sector for some schools with similar positive results (Chandler, 2018). These trauma sensitive schools have documented an increase in retention and attendance, a decrease in classroom incivility issues, and an increase in graduation rates.

2.9. TIC in Higher Education Program Curricula

After reviewing the literature, this researcher noted higher education curricula is lacking in educating students regarding trauma-informed care. The Philadelphia ACE Task Force (PATF) also noted this and has identified this as a priority to address, develop initiatives, and implement teaching. In response to this, a toolkit was developed to fill this void and to incorporate trauma-informed practices into the disciplines of medicine, education, counseling, law and social work (Pachter et al., 2017). However, the main focus is having a trauma-informed classroom environment with little being said about educating the students regarding trauma, TIC and ACEs.

In the education realm, primary and secondary schools have been at the forefront of initiating trauma-informed awareness and trauma-informed approaches in the schools and classrooms. However, commonly, the training and education of trauma-informed care are being presented as professional development. The focus of these trainings is on trauma-informed approaches in the classroom and schools. "By understanding and responding to trauma, school administrators, teachers, and staff can help reduce its negative impact, support critical learning, and create a more positive school environment" (McInerney & McKlindon, 2014, p.1).

2.9.1. Integration of TIC in Nursing Education

Currently, this research only found one documented integration of TIC in a nursing curriculum. Gill, Zhan, Rosenberg, and Breckenridge (2018) integrated TIC throughout the baccalaureate nursing curriculum at the Loewenberg College of Nursing. There was an

identified need to build nursing's workforce capacity regarding ACEs and TIC. The purpose of this systematic integration was to prepare future nurses to identify survivors of trauma, promote good health and positive health outcomes, build resilience and inform healthcare policy for those in their communities. Interprofessional collaboration between health professionals will assist in this capacity, as well as, assist in the improvement of the patients in their care.

Gill, Zhan, Rosenberg, and Breckenridge (2018) recognize the importance of educating its bachelor of science nursing students regarding ACEs and TIC. They developed the ACEs Curriculum Integration Model to redesign the didactic component portion of the curriculum of the nursing program at Loewenberg College of Nursing to reflect the integration of TIC throughout the curriculum. Over five semesters nursing students will learn various aspects of the conceptual constructs. These are awareness and prevention of ACEs, decrease toxic stress and improve social-ecological conditions, educate and enable resiliency, implement trauma-informed care, and improve policy (p. 3). Faculty integrated their assigned component as it pertained to the content of the course they were teaching. It is important to note this program is the only documented ACEs and TIC integration process in undergraduate studies.

2.9.2. Importance of TIC in Nursing Curricula

According to the American Nurses Association, there is a growing need of 1.13 million new nurses by 2022 (U.S. Department of Labor, Bureau of Labor Statistics, 2018). Stokes et al. (2017) state nurses, as direct care providers, are in a unique position in the progression of TIC. Also, Stokes et al. concluded that more work needs to be completed as TIC is a fundamental part of nursing care (2017). Educating nurses regarding TIC prior to becoming professionals will help meet one of the overarching goals of Healthy People 2020 which is to "Create social and

physical environments that promote good health for all" (p.554). TIC and social determinants of health are, and must be, included in the nursing education curriculum to address this issue.

As Executive Order #24 local has been enacted designating the state of Delaware as a trauma-informed state by Governor John Carney, the state has been mandated to address the scarcity of TIC education and approaches in the state. The state must train employees on ACEs awareness, develop a plan for early intervention, integrate trauma-informed best practices and address the impact of trauma (Delaware.gov, 2018). This plan includes state employed nurses and nursing faculty in state institutions. The TIC pyramid (Figure 4) outlines how healthcare practitioners implement TIC in everyday practice.

Figure 4: Trauma-informed pyramid to apply the principles to practice https://www.ahrq.gov/professionals/prevention-chronic-care/healthier-pregnancy/preventive/trauma.html

Evidence-based research provides undeniable data connecting traumatic events to health disparities throughout one's lifetime. The ACE pyramid displays how ACEs influence a person

throughout their lifetime (Figure 5). Nurses have the responsibility to support traumatized patients. The American Nurses Association *Code of Ethics with interpretative statements* (2015), Provision 1 and 2, "The nurse practices with compassion and respect for the inherent dignity, worth, and unique attributes of every person. The nurse's primary commitment is to the patient, whether an individual, family, group, community, or population" (p. 1). Nursing students must be educated concerning trauma and TIC since their main objective is to care for the patient in a holistic manner.

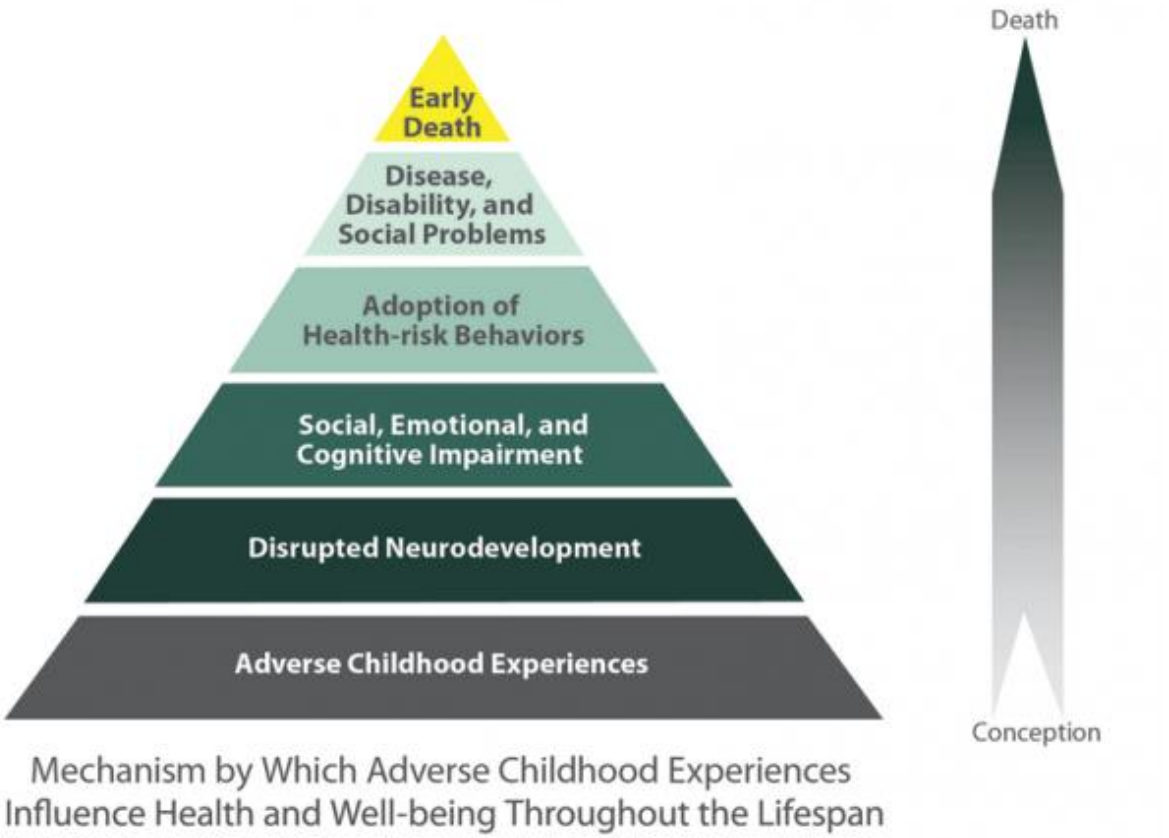

Figure 5: ACE pyramid Retrieved from the CDC
https://www.cdc.gov/violenceprevention/acestudy/index.html

Also, the foundation and the essence of nursing is Watson's theory of caring. This theory includes a nurses' moral commitment to care for patients with their words, behaviors, and actions (Alligood, 2017). Nurses have the opportunity to make a profound difference in the lives of those in their care. By caring and contributing to the well-being of the patient, a nurse is empathetic, understanding, non-judgmental, aids in healing, and makes the patient feel safe. These effects impact a patients physical and emotional well-being and may last a lifetime. Relating to this, nursing students need to have an understanding of TIC to prevent re-traumatization and care for the whole patient. Re-traumatization can occur even within a healthcare system designed to help (Bloom & Farragher, 2013; SAMHSA, 2014)

Courtois (2008) stressed a need for incorporating trauma and trauma-informed care into the core curriculum for healthcare and mental health providers. In fact, Courtois and Gold (2009) continued to document this need because of the high prevalence of patients with a traumatic history background. Their patients may be diagnosed with acute stress disorder, posttraumatic stress disorder, complex stress disorder, depression, dissociation, bipolar, anxiety, substance abuse, psychosis and/or personality disorders (Courtois & Gold, 2009). These providers must be prepared as trauma survivors tend to seek assistance from medical personnel for treatment (Courtois & Gold, 2009).

2.10 Summary

This chapter began by summarizing and synthesizing the current literature. The concepts introduced in this literature review were: trauma, ACES, the impact of trauma, theoretical frameworks such as SAMHSA's trauma-informed approaches and adult learning theory, integration in organizations and integration of TIC in nursing education. The literature strongly suggests ACEs have a direct correlation to negative or poor health outcomes. After reviewing

multiple studies, the results clearly delineate more than half of the respondents have experienced an Adverse Childhood experience.

The remainder of this research contains three additional chapters. Chapter 3 will include the research design and how the study will be conducted. Chapter 4 will include the results from the study and Chapter 5 will contain the discussion, recommendations, implications, and conclusion.

Chapter III: Research and Methodology

3.1 Introduction

This chapter presents the research methods which were used to conduct the study in order to examine the impact of educating nursing students in higher education on trauma and trauma-informed care. A review of the pertinent literature revealed a lack of trauma and TIC education for undergraduate nursing students. Previous TIC research efforts have been seen in the areas of mental health, human services, corrections, and substance abuse (Felitti et al., 1998; Layne et al., 2011). The research evaluated the impact on nursing students enrolled in a mental health nursing course at an institution of higher education before and after a trauma and TIC education session. This chapter includes an overview of the research design, participants, instrumentation, research procedures and pilot testing, data analysis and assumptions of the research study.

3.2 Research Design

For this study, a quasi-experimental, quantitative, one group, pretest-posttest research design was implemented to obtain the impact of trauma and a TIC education session on associate degree nursing students currently enrolled in a mental health nursing course at an institution of higher education. This type of experimental design is commonly being used in the education, medical, and public health sectors as it allows an experimental design, but not having to implement all the required factors associated with it (Thyer, 2012; Harris et al., 2006). According to Fitzpatrick (2017), "Quasi-experimental research is similar to experimental research in that there is manipulation of an independent variable. It differs from experimental research because either there is no control group, no random selection, no random assignment, and/or no active manipulation" (p. 506).

In the education setting, determining if teaching or education sessions are effective, the researcher is compelled to educate the entire class and not isolate a group (Mertens, 2014, p. 138). By educating the whole class, a quasi-experimental design was utilized as only one group of participants was chosen. Furthermore, the absence of a control group and a nonrandomized sample are two components of a quasi-experimental design (Campbell & Stanley, 2015). Since the study involved students currently enrolled in a mental health course, it is neither ethical nor feasible to deny a control group as they would miss the opportunity for education. The one group, pretest-posttest allows the researcher to assess how the intervention has impacted one group of subjects (Harris et al., 2006). This was chosen because all the subjects are in the same setting, which is a mental health nursing course in a higher education institution, and all are undergoing the same experimental protocol.

This quantitative study explored the knowledge level of nursing students of trauma and TIC and the impact of education using a one group, pretest-posttest design. According to Creswell and Creswell (2017), the quantitative research design seeks to deduce if learning occurs when a cause, or education, is presented. Assessing the impact is the variable measured in this survey research design. According to Creswell and Creswell (2017), random and non-random sampling can be used to obtain quantifiable data. By using a pre-post survey as the method of data collection, the results of the study have the potential of generalizability for nursing students.

The one group, pretest-posttest design uses a Likert scale survey to obtain data from the participants in a statistical manner presenting the findings as a numerical representation. The same survey was used for both the pretest-posttest and the results were analyzed and compared. Data were collected using a self-reported survey prior to the education and immediately after. Benefits of a self-reported survey are the data can be converted numerically for analysis

and since the same information is presented to all the participants, surveys are considered to be reliable (Nardi, 2018). A limitation of self-reported data is the researcher assumes the subjects are honest and accurately reporting (Nardi, 2018).

3.3. Research Subjects and Setting

This section describes the demographic information for the chosen sample. Etikan, Musa, and Alkassim (2016) find that purposeful sampling occurs when a group or section of a larger population is chosen to represent the population as a whole and the results from the study can be generalized to that population. The convenience sample was chosen due to the type of education being presented and the researcher noting a lack of statistical data in this population. The participants were nonrandom and purposefully selected by the researcher. Nonrandom sampling occurs "...where members of the target population that meet certain practical criteria, such as easy accessibility, geographic proximity, availability of time, or the willingness to participate are included for the purposes of the study" (Etikan, Musa & Alkassim, p. 2, 2016). More specifically, purposeful sampling occurs when the researcher selects participants or populations based on specific characteristics (Mertens, 2014).

For the purposes of this study, the population the researcher purposefully chose are nursing students enrolled in an associate degree of nursing program in the Northeast region of the United States of America during the Spring 2019 academic year. According to Palinkas et al. (2015), purposeful sampling commonly occurs when a researcher selects participants based on their knowledge of the area being studied. Nursing students enrolled in a mental health nursing course were chosen due to the experience with patients and their lack of education of ACEs and TIC.

This specific institution of higher education was chosen due to its proximity and specific subject population. The college has approximately 300 nursing students currently enrolled in the nursing program at one of its campus locations. These nursing students have been admitted to the nursing program after completing the pre-program requirements and maintaining at least a 2.5 GPA. The average age of the student body is 27 and all who participated in the research study are over the age of 18. Only the students enrolled in the mental health nursing course were included in the study, as this course has the concept of trauma included within the curriculum. The participants were chosen due to their geographical location and convenience.

At the institution, the nursing curriculum includes multiple medical-surgical courses, as well as mental health, maternity, pediatrics, and community health. The selected sample has already successfully completed the required prerequisites which is the first medical-surgical nursing course and has successfully advanced to the mental health nursing course. In the mental health course, the curriculum includes the concept of trauma and this is the only course which the concept is discussed. Also, all of the faculty in the course are mental health practitioners and are proficient in assessing mental health issues and stress. By providing the education session to these selected nursing students from the chosen population, the nursing students will be able to implement the education throughout the remainder of their education studies, as well as their future profession.

Eligibility inclusion criteria are described as follows: a purposeful sample of no more than 80 participants will be obtained, who are second-semester nursing students currently enrolled in a mental health nursing course. The number 80 was chosen as it is the maximum capacity of students for the course. At the time of the research study, the current enrollment in the class was 78. Both men and women of any ethnicity were included in the study. No

compensation was given to the participants, nor were incentives offered. There were no other exclusion criteria. Consent was obtained by asking the participants to read and an informed consent form prior to participating and proceeding with the study. Nursing students were informed of the pretest-posttest prior to its administration via the learning management system.

3.4. Instrument

Upon completing a thorough review of the current literature, the researcher did not discover an existing survey instrument to measure the outcomes of a trauma and TIC education session on nursing students. However, there were studies which assessed, implemented, and evaluated trauma-informed professional development of educators and mental health providers, but since the content did not apply to the research being conducted those instruments could not be used (Muskett, 2014; Purtle and Lewis, 2017). For example, Purtle and Lewis' systematic review of evaluations looked at the interventions implemented at 23 staff training sessions and the assessment of the effectiveness of the educational session (2017). It identified there were no empirical studies already in existence which evaluated how TIC was integrated into policy proposals.

Therefore, a survey was developed by the researcher to aid in answering the posed research questions relating to nursing students. According to McNamara (1997), surveys should only include questions which apply to the research questions. By utilizing a survey with a pretest-posttest design, the researcher was able to gather quantifiable data. The researcher analyzed the relationship between the pre-survey and post-survey to assess if, and potentially how much, learning occurred during the education session.

The researcher developed a five-point Likert scale survey. By utilizing a Likert scale, the researcher is able to quantify the responses and determine the significance. The survey is titled

Knowledge of Adverse Childhood Experiences and Trauma-Informed Care Survey (Appendix B). The survey ranges from "1" strongly agree to "5" strongly disagree with the survey consisting of 10 close-ended questions. Each response was weighed equally to produce a total calculation for each question. These findings are presented as numerical data. The survey questions were written to directly align with the research questions. In addition, demographics of the participants were collected.

3.5. Research Procedures

The request to conduct the research study was submitted to the Institutional Review Board (IRB). The Institutional Review Board approval was obtained after the proposal was approved. The IRB approval was received prior to the collection of any research data.

Upon completion of the development of the pre-survey and post-survey, the instrument was reviewed to determine face validity. Heale and Twycross (2015) define face validity as determining if the instrument developed by the researcher appears to measure what it is intended to measure. To determine the instrument's face validity, the researcher had nursing faculty read, review, and inspect the survey to determine if the instrument appeared to measure the research questions. No suggestions were offered after the nursing faculty reviewed the instrument, so no changes were made to the instrument.

The survey was also assessed for content validity. Heale and Twycross (2015) necessitate the importance of obtaining content validity prior to implementing a newly developed instrument. Content validity refers to the researcher designing the instrument so the content and variables are included and the scope of the items represent the subject the assessment seeks to measure (Heale and Twycross, 2015). The nursing faculty also reviewed the survey for clarity,

readability, and comprehensibility and there were no changes after the nursing faculty reviewed the instrument.

3.5.1. Pilot

The survey instrument was piloted using a pilot group which was different from the actual research subjects. This pilot was completed prior to administering the proposed study to the actual subjects to ensure validity and reliability of content analysis. A pilot study is defined by Torgerson and Torgerson as "...a study that is evaluating an incompletely developed intervention" (2008, p.119). Due to the researcher developing the survey instrument, it was essential the instrument was piloted since this is a novel topic in the realm of nursing student education. By completing a small-scale rendition of the actual study, the researcher was able to determine potential problems or issues within the study (Leon, Davis & Kraemer, 2011). This requisite step assisted in the refinement of the survey and education session. Furthermore, the researcher also included, at the bottom of the posttest, space for the participants to provide feedback or pose questions. The students were told to edit and provide comments for face and content validity.

During the pilot test, the survey was administered to the pilot group who were senior-level nursing students at the same institution. The procedures and instrument were examined and reviewed by the pilot group for ease of use, readability, and clarity. The pilot group also completed the survey questions and after, the completed surveys were reviewed by the researcher to determine alterations in the presentation and/or the instrument. By completing a pilot, the process assists with the refinement of the research methodology (Thabane et al., 2010). Additionally, the individuals who participated in the pilot were not given any compensation for their involvement.

3.5.2. Data Collection

A letter of intent was sent to the vice president of the college in which the study took place (Appendix E). In response, the researcher received a letter of acceptance in response to the letter of intent (Appendix F) indicating the study could proceed at that institution. After permission was obtained from the institution in which the study took place, the researcher sent the nursing students in the mental health course an email. This email was written and posted on the learning management system to inform the potential subjects of the upcoming study. It indicated the study would occur in a week. The study was conducted during a mental health class in the spring semester in 2019 so the students enrolled in that course were the only ones which received the notification.

Prior to the implementation of the research, the researcher organized the papers to be included and distributed to the nursing students. These items included: manila envelopes, pre-survey, post-survey, and the letter of consent. The pre-survey was printed on blue paper and the post-survey was printed on green paper. Each individual subject received a manila envelope with a letter of consent, a pre-survey, and post-survey the day of the research. The manila envelopes were marked with corresponding numerical identifiers. These numerical identifiers were placed on the envelopes, the pretest, and posttest. The numerical identifiers allowed the researcher to pair the participant's responses after the completion of the education session. These identifiers allowed for the researcher to input the data into Microsoft Excel and IBM Statistical Package for the Social Sciences (SPSS) to complete a t-test to determine the statistical significance of the results from the education session.

On the day of the study, the mental health faculty distributed a manila envelope to each nursing student when they entered the classroom prior to the education session beginning. At the

start of the research session, the participants were instructed to remove the informed consent and the blue pre-survey. Then, the researcher gave a verbal description of the purpose of the study, the expectations for the survey procedures, and answered the nursing students' questions. After completing this, the consent was read and reviewed by each subject prior to completing the pre-survey. Then, time requirements and procedure guidelines on completing the survey were also reviewed and this was done prior to the implementation of the education session. Participation was voluntary and participants were reminded of this and provided the option to withdraw from the study at any time.

The pre-survey was administered at the beginning of the session; five minutes was given to complete the confidential and anonymous survey. The researcher instructed the nursing students to place the pre-survey, printed on blue paper, back in the manila envelope at the end of the five-minute time limit. Next, the trauma-informed education session was presented by the researcher and contained a PowerPoint presentation, lecture, and discussion. The content of the education session included: definition and prevalence of trauma, the impact of trauma on the development of emotional, cognitive and social development, ACEs, the correlation of ACE and poor health outcomes, and TIC approaches. The researcher presented the research during one session, over a 30-minute span which was needed to complete the research.

At the immediate conclusion of the education session, the researcher asked the nursing students to complete the post-survey, printed on green paper, and was included in the manila envelope. The students were then asked to place the pre-survey and post-surveys in their manila envelopes, respectively. The nursing students were informed that they were allowed to keep the informed consent document. Furthermore, the nursing students were reminded to not discuss the study nor the project.

Confidentiality was maintained during this study. Assurance of confidentiality is when their identity cannot be linked to the information provided to the researcher and will not be divulged to the public (Fitzpatrick, 2017). The researcher abided by this right to privacy by including this in the informed consent, making the subject aware of how the records will be maintained. The survey did not collect personal student data and therefore Federal Education Rights and Privacy Act of 1974 was protected for those involved in the study. Once the surveys and consent were completed, the documents were kept in a locked cabinet in which only the researcher had the key.

3.6. Data Analysis

A pilot study of The Knowledge of Adverse Childhood Experiences and Trauma-Informed Care survey was completed prior to the implementation of this research. This 10-item measure allowed the nursing students to respond using a 5-point Likert-type scale. After the quantitative data were collected from the pilot study, the researcher had the survey data analyzed using the Microsoft Excel and IBM Statistical Package for the Social Sciences (SPSS) Version 25 statistical software program. After the study was conducted, the data were analyzed to conclude the Cronbach's alpha result. The use of a Cronbach alpha increases the reliability and measures the internal consistency of the instrument (Taber, 2017). The Cronbach's alpha is common when implementing Likert scales to determine internal consistency and to describe reliability (Gliem & Gliem, 2003). The Cronbach alpha of the pilot study, or coefficient of reliability, was .901, which means it has a high degree of internal consistency. A high degree of internal consistency indicates that there is a sufficient amount of questions which adequately relate to the concept (Creswell and Creswell, 2017).

Table 1: Cronbach alpha result of the pilot study

Case Processing Summary

		N	%
Cases	Valid	21	100.0
	Excluded[a]	0	.0
	Total	21	100.0

Reliability Statistics

Cronbach's Alpha	N of Items
.901	10

The research question and null hypothesis were analyzed using descriptive and inferential statistics. The findings listed are the f values, degree of freedom, and significance. Mean and standard deviation were also included. The mean examined the central tendency for the area studied and the standard deviation provided an explanation for the variations for each distribution.

A paired t-test was chosen to analyze the data as it measures the influence of the independent variable on the dependent variable (Creswell and Creswell, 2017). The independent variable in this study is the education session and the dependent variable is the perception of the nursing student's knowledge level. The perception of knowledge was measured by a Likert scale.

A deductive approach will be taken by using the survey questions and the data will be analyzed to determine statistical significance (Creswell and Creswell, 2017). The results from the data were evaluated to determine if the null hypothesis should be rejected or accepted. Also, the research question was answered to determine the impact of the education session. The research question is as follows. RQ #1 What impact will an educational session have on nursing students' knowledge acquisition regarding Trauma-Informed Care and Trauma-Informed Care approaches in patient care delivery?

3.7. Ethical Issues

During the development, administration, and evaluation of this study, the researcher was cognizant of the possible ethical issues which might arise and should be avoided. However, the researcher still obtained IRB approval and abided by their guidelines, rules, and regulations. The Federal Drug Administration (n.d.) defines an Institutional Review Board as a formal, designated group, whose sole purpose is overseeing the protection of the human subjects or participants involved in research studies. When conducting research on human participants, researchers must protect their participants' human rights when conducting the actual research and comply with the IRB ethical guidelines (Dresser, 2012). For this study, there are no known risks for nursing students to participate in the educational session.

Once approval was obtained from the Institutional Review Board of Delaware State University, an informed letter of consent was constructed. Prior to the education session, informed consent was obtained by having the participants read a letter of consent immediately after obtaining it. By obtaining informed consent, the participants were made aware of their legal rights, risks and benefits, and voluntarily agree to participate in the research study. The nursing students were also verbally informed that their participation in this study is completely voluntary and they have the right to withdraw from the study at any time. Furthermore, the researcher's contact information, as well as, the issuing IRB approval committee information was provided in the event the nursing students had questions or concerns regarding their participation in the study.

No identifying information was included on the pre-survey or post-survey, thereby protecting the nursing students anonymity and confidentiality. Maintaining anonymity and confidentiality is a concern and essential for the protection of the participants' rights (Jupp,

2006). In order to protect anonymity, the participant's names or identifying data was not requested nor included in the study. Additionally, confidentiality is defined in research as keeping the participants' information private unless the subject gives permission otherwise (Jupp, 2006). Since a pretest-posttest design has been chosen for this study, the researcher had to develop an identifier to be placed on all surveys distributed to the nursing students to eliminate the participants who did not complete both surveys in their entirety. A numerical system was used as the identifier in order to correlate pre-survey and post-survey to ascertain if knowledge occurred. Likewise, the participants and the institution of higher education will not be publicly identified to protect their anonymity and confidentiality.

The pre-survey and post-surveys were collected by the mental health faculty and given to the researcher at the end of the education session. The researcher then correlated the data and entered it into the researchers' private SPSS account. This data included the numerical identifier and the Likert score as they pertain to the individual research questions. The pre-survey and post-survey documents were kept in a locked cabinet located in a locked room to protect the security of the collected data. Nursing students did not sign the informed consent letter in order to agree to participate so the document was given to the student and not retained by the researcher. Only the researcher has the keys to both the cabinet and the office. At the end of the study, the documents will be destroyed to maintain the anonymity of the participants.

3.8. Summary

This chapter began by summarizing and synthesizing the literature regarding quantitative content analysis. The methodology was presented and rationale was included for the use of quantitative research design. Description of the participants, setting, instrument and pilot testing

were described in detail. Research procedures were outlines and data analysis was described. Finally, ethical considerations were identified and included.

Chapter 4 will present a summary of the data findings as they relate to the research questions. Chapter 5 will contain a discussion, implications for the field of nursing, and educational leadership, recommendations for future research and a conclusion.

Chapter IV: Research Findings

4.1. Introduction

This chapter presents an overview of data analysis, a description of the sample, and the results and analysis of the research as related to the research questions included in this study. The following includes a description of the demographics and the results derived from using a parametric test, a t-test. The paired t-test was chosen to discover if there were any statistical differences between the results of the pre-survey verses the post-survey as this demonstrates acquisition of knowledge acquired from the education session.

The assumptions of a paired t-test are discussed in this chapter. Also included, are the results from the descriptive and inferential analyses. Descriptive and inferential analysis were both used as descriptive statistics summarized the data from the sample and inferential statistics determined the population parameters from the data.

4.2. Overview of Data Analysis

This study was designed to assess the impact of a trauma-informed care educational session on second-semester nursing students enrolled in a mental health nursing course. This knowledge is crucial to obtain, as nursing students play a pivotal role in abating the effects of trauma in patients while in the healthcare setting. By increasing their knowledge regarding the impact trauma has on trauma survivors, the student nurse could then advocate appropriately. This will also allow the nursing students to become change agents which could lead to positive health outcomes for the trauma survivors.

As there are no identified TIC instruments available to assess the impact of a TIC education session on nursing students, the researcher developed the Knowledge of Adverse Childhood Experiences and Trauma-Informed Care survey (Appendix B). In order to ascertain

the depth of their knowledge, the nursing students were asked to complete this 10 item Likert style survey. The Likert scale was designed for the nursing students to rate their knowledge level and understanding of trauma, TIC and ACEs. These were presented in Likert scale format, ranging from 1 - "Strongly Agree", 2 - "Agree", 3 – "Neither Agree or Disagree", 4- "Disagree", to 5- "Strongly Disagree." More specifically, the study subjects were asked if they knew the definition of trauma and if they could describe the different types of trauma. They were asked if they were familiar with TIC, the principles of TIC and about trauma-informed approaches. Also, they were asked to determine to what extent they could recognize or identify behaviors, manifestations, emotional responses, and the impact on cognitive development related to a history of trauma. Finally, they had to rate their knowledge of ACEs as they directly correlate to poorer health outcomes for patients with a history of trauma.

This quantitative research was completed in one session during the spring semester at a community college to second-semester nursing students enrolled in a mental health course. When the session began, the researcher advised the nursing students of their right to not answer any sections they did not feel comfortable answering and they were reminded of their right to refuse to participate without penalty, and their ability to withdraw at any time. Then a full-time faculty member, in the mental health course, distributed a manila envelope to each participant. The manila envelopes contained three pre-coded items: The Knowledge of Adverse Childhood Events and Trauma-Informed Care Pre-Survey (Appendix B), the Knowledge of Adverse Childhood Events and Trauma-Informed Care Post-Survey (Appendix C) and the informed consent (Appendix A). The students were asked to review the consent form and to complete the pre-survey containing the ten Likert scale questions. After the pre-survey was completed, the students were told to place it into their manila envelope and then the education session began.

The education session consisted of a PowerPoint presentation and discussion which took approximately thirty minutes to complete. Concluding the education session, the students were given five minutes to complete the post-survey and place it in the manila envelope. The same full-time mental health faculty collected the manila envelope with the completed pre and post-surveys inside. After reviewing the pre-coded surveys, seventy-three of seventy-eight (94%) enrolled nursing students finished both the pre-survey and post-survey in their entirety.

After the data were collected, they were entered into SPSS and a paired t-test was performed. This statistical software package uses several models to determine the variation and difference between groups which have an ordinal scale (Creswell and Creswell, 2017). According to Creswell and Creswell (2017), a paired t-test is utilized to analyze the effects of the independent variables on the dependent variable. It is also used to compare the average means of two data sets to conclude if there is a statistical difference (Fitzpatrick, 2017). Also, the confidence interval was analyzed to estimate the level of difference between the means. For example, when the confidence level increases then the margin of error also increases (Nardi, 2018). An alpha level of .05 or less was used to determine the statistical significance of the relationship.

The paired t-test was chosen to examine the differences in the responses of the student nurse, which was based on each individual survey statement between the responses. The chosen study design for this research involved measuring each subject twice using the pre-survey and post-survey. By having the same population to compare the survey results, the researcher is able to determine if knowledge was acquired. The results from the study can then be applied to the nursing population as a whole

The pre-survey included a demographic section in which the nursing students provided data related to prior training and past employment history (Table 2). These five demographic statements were only found on the pre-survey. They were included in the survey to inquire about the population studied and to whom the population parameters could be applied. The main parameter the researcher is focusing on is nursing students and by completing the demographic section this will allow the findings to possibly be applied to the nursing population as a whole. Furthermore, the nursing student's personal training history and employment can impact the manner in which they responded to the survey so this implication must be identified as a potential limitation.

Table 2: Descriptive Analysis of the Subjects (n=73)

Variable	**Category**	**n**	**%**
1. Prior trauma training	Yes	13	18%
	No	60	82%
2. Prior TIC training	Yes	2	3%
	No	71	97%
3. Work in healthcare	Yes	34	47%
	No	39	53%
4. Work in corrections	Yes	0	0%
	No	73	100%
5. Work in mental health	Yes	3	4%
	No	70	96%

Note: Total percentages may not equal 100 due to rounding.

The descriptive statistics of the demographic data from the 73 subjects are presented in Table 2 and are as follows. While 47%of the subjects work in healthcare and 4% work in mental

health, this only accounts for slightly more than half (51%) of the subjects. 82% of the subjects replied they have not had any previous trauma training prior to the education session. Even more importantly, 97% of the subjects identified they have not had any previous trauma-informed care training. The department of corrections has been active in developing and implementing TIC; however, none of the subjects who participated in the survey work in corrections. However, the statement was included in the survey as correctional nursing encounters a high percentage of trauma survivors and that was not known prior to the data analysis (Branson, Baetz, Horwitz, & Hoagwood, 2017).

The collection of this descriptive demographic data is important as each student nurse is impacted by their current and previous employment and training history. Also, the results of this can reinforce the need to apply TIC across the curriculum. This will, in turn, directly impact the field of nursing because those students will have had initial TIC education.

4.3. Research Question I

Research Question #1: "What impact will an educational session have on nursing students' knowledge acquisition regarding trauma, trauma-informed care, and trauma-informed care approaches in patient care delivery?"

Research question number 1 asks whether there is a difference between the results of the pre-survey and post-survey when an education session is implemented on trauma-informed care. To address this question nursing students were surveyed and asked their perception of knowledge regarding trauma and trauma-informed care. Their responses were scored on a 5-point Likert scale. To determine the presence of differences, a paired t-test was used for each survey question. A t-test was used to compare the means of the subject's responses on each of the ten survey questions. The researcher was interested in all the results; however, the focus was

on determining the significance of each of the survey questions. The results from the surveys are included in Table 3 and Table 4.

In table 3 the results of the t-tests comparing pre-survey and post-survey means of the nursing students' self-assessment of their knowledge were presented. According to the Likert scale, with 1 indicating the student strongly agreed to their self-assessment of knowledge of the content being asked and 5 meaning they strongly disagreed to their self-assessment of knowledge of the content being asked. A lower score for the mean indicates the nursing students feel more knowledgeable in a content area. According to Creswell and Creswell (2017), a researcher uses a paired t-test when comparing two groups and exploring the differences in the mean scores. The mean scores for each individual question for both the pre-survey and the post-survey are provided in Table 3.

Table 3: Mean Results from the Pre-Survey and Post-Survey

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre_Definition of Trauma	2.1096	73	.73714	.08628
	Post_Defintion of Trauma	1.3973	73	.52014	.06088
Pair 2	Pre_Different types of trauma	2.9452	73	.97026	.11356
	Post_Different types of trauma	1.5616	73	.57702	.06754
Pair 3	Pre_TIC	3.4521	73	.91350	.10692
	Post_TIC	1.6027	73	.61779	.07231
Pair 4	Pre_Principles	3.7945	73	.89689	.10497
	Post_Principles	1.5890	73	.64195	.07513
Pair 5	Pre_4Rs of TIC	3.9863	73	.92034	.10772
	Post_4Rs of TIC	1.5205	73	.55552	.06502
Pair 6	Pre_Behaviors	2.2192	73	.90134	.10549
	Post_Behaviors	1.4247	73	.64373	.07534
Pair 7	Pre_Cognitive development	2.3699	73	.92055	.10774
	Post_Cognitive development	1.4247	73	.52488	.06143
Pair 8	Pre_Emotional regulation	2.3836	73	.99485	.11644
	Post_Emotional regulation	1.3973	73	.52014	.06088
Pair 9	Pre_Physical Manifestations	2.4247	73	.98485	.11527
	Post_Physical Manifestations	1.4247	73	.52488	.06143
Pair 10	Pre_ACEs	3.7123	73	1.04721	.12257
	Post_ACEs	1.3699	73	.54024	.06323

Next, to answer the research question the researcher had to also examine the data illustrated in Table 4 as they provided more in-depth data of the results from the t-test. The total mean was calculated for each of the survey questions comparing the pre and post survey results. As represented in Table 4, a lower mean difference indicated that the nursing students perceived a higher knowledge level of the topics. Inversely, a higher mean difference indicates that the nursing students had a lower perceived knowledge level of the topics.

4.4. Research Hypothesis

Table 4 displays the t-test results which determine the results of the hypothesis. The researcher examined the significance column to ascertain if the p-value of the survey questions were statistically significant. A p-value <.05 is determined to be significant (Creswell and Creswell, 2017). In order to reject the null hypothesis, the p-value must be <.05 (Creswell and Creswell, 2017).

Table 4: Results of the T-tests from the Pre-Survey and Post-Survey

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Pre_Definition of Trauma - Post_Definition of Trauma	.71233	.88944	.10410	.50481	.91985	6.843	72	.001
Pair 2	Pre_Different types of trauma - Post_Different types of trauma	1.38356	.92241	.10796	1.16835	1.59878	12.816	72	.001
Pair 3	Pre_TIC - Post_TIC	1.84932	1.02295	.11973	1.61064	2.08799	15.446	72	.001
Pair 4	Pre_Principles - Post_Principles	2.20548	1.06665	.12484	1.95661	2.45435	17.666	72	.001
Pair 5	Pre_4Rs of TIC - Post_4Rs of TIC	2.46575	1.01492	.11879	2.22896	2.70255	20.758	72	.001
Pair 6	Pre_Behaviors - Post_Behaviors	.79452	.86537	.10128	.59262	.99643	7.845	72	.001
Pair 7	Pre_Cognitive development - Post_Cognitive development	.94521	1.01229	.11848	.70902	1.18139	7.978	72	.001
Pair 8	Pre_Emotional regulation - Post_Emotional regulation	.98630	.99294	.11621	.75463	1.21797	8.487	72	.001
Pair 9	Pre_Physical Manifestations - Post_Physical Manifestations	1.00000	1.06719	.12490	.75101	1.24899	8.006	72	.001
Pair 10	Pre_ACEs - Post_ACEs	2.34247	1.15733	.13546	2.07244	2.61249	17.293	72	.001

4.5. Findings

In order to determine the results of the study the researcher entered the individual results of the surveys into the SPSS. Then the data was analyzed using the paired t-test and the results are included below.

4.5.1. Results of Individual Survey Questions

The survey results were entered into the SPSS program and the data were analyzed to determine statistical significance. Each survey question was reviewed for the impact the education session had on the mean and p-value. The following section includes the statistical representation of the findings. Table 4 displays the findings of the paired t-test of the pre-survey and post-survey.

The researcher identified the following topics which had the largest impact from the education session. The nursing students reported the 4R's of the trauma-informed approach (M = 2.46575, $p < .001$) had the greatest increase on their self-perceived knowledge. Next, the study results indicated that the nursing students reported describing the impact of ACE's on health outcomes (M = 2.34247, $p < .001$) and identifying the Principles of Trauma-Informed Care (M = 2.20548, $p <.001$) as the next highest increase in self-perceived knowledge.

Additionally, being familiar with trauma-informed care (M = 1.84932, $p < .001$), describing the different types of trauma (M = 1.38356, $p < .001$) and recognizing the relationship of trauma and physical manifestations (M = 1.0000, $p < .001$) were also identified as increasing knowledge. Furthermore, the nursing students indicated their perception of knowledge of recognizing the relationship of trauma and emotional regulation (M = .98630, $p < .001$), recognizing the relationship of trauma and cognitive development (M = .94521, $p < .001$), and

identifying patient behaviors may reflect a traumatic past (M = .79452, p < .001) increased. With the least increase in knowledge, but still an increase in knowledge, knowing the definition of trauma (M = .71233, p < .001) had the lowest mean score.

4.5.1. Research Question I

"What impact will an educational session have on nursing students' knowledge acquisition regarding trauma, trauma-informed care, and trauma-informed care approaches in patient care delivery?"

In order to answer the research question, the researcher identified specific areas related to trauma and trauma-informed care in which a practitioner should be knowledgeable about and included those areas on the survey. Then, the nursing students had to indicate the level of knowledge they had regarding the selected topics. The response options were as follows: 1 "strongly agree", 2 "agree", 3 "neither agree or disagree", 4 "disagree", and 5 "strongly disagree". For analysis, the coding for the level of knowledge was reversed to align the higher degree of disagreeance to the higher numerical value.

Inferential statistics were used to ascertain whether the education session was impactful by exploring the pre-survey and post-survey differences by completing a paired t-test. Evidence confirming the education session increased the student nurse's knowledge in all topics is presented in Table 4. According to Field (2014), after completing the analysis through SPSS if the p-value is displayed as .000, it is recommended the p-value be rounded to .001 and documented as such. After reviewing the inferential post-survey results, this study did, in fact, find statistically significant effects as the p-value of each of the survey questions were <.001. This indicates the results are highly significant in increasing the perception of knowledge

indicated by the nursing students' responses for every survey question obtained from the education session.

4.5.2. Research Hypotheses

After completing the inferential statistics, the researcher reviewed the significance of each survey question. Each of the ten survey items revealed a p-value of < .001 which indicates a high significance. Since the p–value is less than .05 this indicates the groups differ and the null hypothesis is rejected. Subsequently, the alternative hypothesis is accepted. The alternative hypothesis is: A difference does exist in the acquisition of knowledge regarding trauma, trauma-informed care, and trauma-informed care approaches in patient care delivery as demonstrated in the pre-survey and post-survey.

4.6. Summary

In summary, this chapter included an overview of the data collection, data analysis, and a description of the population sampled. The research question, null hypothesis, and alternative hypothesis was were addressed using descriptive and inferential statistics. The findings from the inferential statistics, the t-test, indicated an increase in knowledge acquisition occurred. Chapter 5 will include a discussion, implications for the field of nursing, and educational leadership, recommendations for future research and a conclusion.

Chapter V: Discussion, Recommendations, Implications, and Conclusion

5.1. Introduction

This final chapter discusses the research findings presented in chapter 4. Contained in this final chapter is a discussion, implications for the field of nursing and educational leadership, recommendations for future research and a conclusion. This research was conducted to discover the impact of an education session on trauma, trauma-informed care, and trauma-informed care approaches and the nursing student's perceived knowledge of these concepts. This investigation will also contribute to the body research and hopefully be the catalyst for the inclusion of trauma and trauma-informed care education in nursing education.

5.2. Discussion

Trauma takes a devastating toll on an individual's emotional and physical well-being. According to Felitti et al. (1998), more than half of the population of the United States have experienced at least one ACE. This one exposure directly related to premature mortality, high-risk behaviors, and poor health outcomes. Trauma has a direct correlation to the physical, emotional, and psychological health of the individual and nurses, even nursing students, need to understand that correlation (Yatchmenoff, Sunborg, & Davis, 2017). By recognizing all patients may have a trauma history, practitioners need to be proficient in treating trauma survivors by realizing the interconnectedness of the patient's history and the direct impact effecting present-day health. By educating nursing students prior to the start of their career regarding recognizing traumatized patients and treating all patients as if they had a trauma history, could improve the patients the quality of life and care for those individuals. The purpose of this research was to determine student nurses perceived knowledge regarding trauma, trauma-informed care, and

trauma-informed care approaches and also the impact an education session had on the students' knowledge.

According to the review of the literature, there are no research studies pertaining to the impact of an education session of trauma, trauma-informed care and ACEs on second-semester nursing students. Furthermore, there are no research studies regarding educating nursing students as a whole. The vast majority of the published TIC literature focuses on educating faculty to care for students, improving the juvenile justice systems, and social service systems (Branson, Baetz, Horwitz and Hoagwood, 2017, Morrissey, Calloway, Bartko, & Ridgely, 1994). This lack of research and the statistical significance of this study's findings confirm the need of including education of trauma, trauma-informed care and ACEs in all levels of nursing curricula.

According to Felitti et al. (1998), trauma has a direct correlation to poor cognitive development and difficulty with emotional regulation in children. Dubois et al. (2014), state the traumatized child's brain is actually smaller leading to an increase in behavior problems, absenteeism, dropout rates, and lower IQs. Later in life, this may inhibit patients from being compliant with medical regimes due to an inability to understand the treatment plan related to the lower IQ and ability to read at grade level (Perfect et al., 2016).

Furthermore, these survivors have a higher propensity to participate in risky behaviors or develop a chronic disease. These identified diseases are chronic obstructive pulmonary disease, diabetes, cancer, depression, and/or heart disease (Felitti et al., 1998). Furthermore, Anda et al. (2006) added, these individuals use the healthcare system more than people without a traumatic past. With this increased use of healthcare services, nursing students should have some general knowledge of trauma and how to approach these patients in a manner to not re-traumatize them.

After completing the data analysis, the results indicated nursing students perceived themselves to have a higher-level of knowledge of all the topics which were on the survey. After reviewing these survey questions which were identified as statistically significant, the researcher included several recommendations for future research. However, with TIC, if you approach all people as if they had a traumatic history then you are using Universal Precautions, therefore, preventing re-traumatization (Center for Health Care Strategies, 2018).

The findings identified the students had prior knowledge of the concepts of trauma, trauma-informed care, and ACEs as demonstrated by the mean scores found in Table 3. This finding demonstrates how the study reinforced Knowles Adult Learning theory. For example, one of the core principles Knowles characterized by adult learners was acknowledging the prior experience of the learner (Knowles, 1973). This is true as the average age of the student body in the college is twenty-seven which indicates the researcher needs to consider their life experiences when analyzing the results. Moreover, in order to apply to the nursing program, the students had to take eight pre-requisites, which included human development and sociology which prepares them for the concepts which relate to their prior experience.

Also, these nursing students are in their second semester of nursing classes. By seeking out a higher education degree this demonstrates their readiness to learn, which is another principle of Knowles Adult Learning Theory. In addition, the principle of knowing learners need to know is also demonstrated in the fact they are enrolled in a nursing mental health course where trauma is a concept for the program. Likewise, during the research study, the nursing students were currently enrolled in a mental health course and the education session was given halfway through the semester so it is unknown what other topics were previously taught in class or what they were exposed to in clinical. Moreover, the students are to complete their reading

assignments prior to attending class and trauma and trauma-informed care are topics in their required text so the students who completed the readings would have prior knowledge of the content.

5.3. Recommendations

One major finding of the ACE study was the life-long implications trauma survivors incur because of the pervasiveness of childhood adversities (Felitti et al, 1998). Trauma can occur at any time and at any place. For example, if the trauma occurred in a healthcare setting, this makes future interactions with healthcare providers and health systems even more vital to be trauma-informed. One recommendation would be for healthcare practitioners to learn about TIC during their undergraduate studies. If this is not possible, then new nurses and new hires should be educated during new employee orientation. This will increase the culture of safety in the healthcare environment.

Green (2018) asserted, "more than half of nurses questioned indicated they had never heard of TIC and were not sure if they were using TIC in practice" (p. 8). This is not isolated to just nursing. The trauma survivor interacts with many individuals in the healthcare system such as; healthcare techs, physicians, laboratory staff, therapists indicating all need to be aware and apply the trauma-informed principles. Those working in healthcare settings can have a positive impact on individuals wary of the healthcare system by becoming more aware of how to care for these individuals. Cross-professional communication and collaboration need to be increased so that the nursing students and other members of the healthcare team can serve to benefit the patient.

They would also identify and disseminate evidence-based practice findings for the nursing students to have an understanding of the complexity of the effects of trauma. Nurse

educators need to explore other ways for the students to be able to provide competent care to a diverse population. Another recommendation would be to thread the concept of TIC throughout the curriculum so the nursing students would be prepared to effectively care for these individuals as soon as they start clinical. By implementing TIC in the didactic and clinical setting, nurse educators would be role model the approaches and principles of TIC.

5.4. Implications Related to the Field of Nursing

Nurse educators have the opportunity to improve patient outcomes by implementing and facilitating trauma-informed care into the nursing education curricula. The review of literature described how the extent of TIC coverage in the curriculum is almost non-existent. However, it is also stressed in many recommendations' sections, to include it in current nursing practice. The findings identified in the previous chapter only supports the positive implications for including these concepts into nursing education.

By implementing the education of a trauma-informed approach, nursing students have the potential to increase their ability to improve patient outcomes. It has already been identified, in previous studies, the lack of compliance and the poor health outcomes a trauma survivor already faces. So, the fact that nursing students can become change agents and alter the trajectory of those affected by trauma should be important enough for nursing schools to include it in their curriculum.

Nursing must take an active role in effectively preparing students and current nurses to implement TIC into all practice areas due to the undeniable evidence trauma and traumatic events are still prevalent today. Trauma-informed care offers a framework for practitioners to help avoid triggering patients in the healthcare settings and to help practitioner interact with patients with a traumatic past in a non-judgmental way, essentially, upholding the do not harm

motto. By reducing the traumatic stress and mitigating perceived harm, patients will be at more ease to seek out care and there will be a reduction of retraumatizing patients. Also, bedside nurses have the most contact with patients, so the development and training of interventions to decrease retraumatizing patients is essential. By viewing the presenting problems through a trauma lens, the nurse will be able to interact with the patient using the principles of TIC.

By educating nursing students regarding ACEs, TIC and the manifestations of ACEs, they will have an understanding of how early life adverse experiences correlate to maladaptive coping mechanisms and long-term health issues. Increasing awareness and competency by providing trauma-informed care education prior to the nursing students going into independent practice may potentially mitigate adverse events from occurring.

As Levenson and Grady (2017) identified, it is imperative that healthcare environments be a place where patients feel safe. This will assist them in trusting the healthcare providers, be more willing to collaborate with the providers, and more empowered to make the choices they feel are best for them. Educating students on this topic could potentially lead to a decrease in patient noncompliance and increase in follow-up and preventative care. This will in turn increase their quality and quantity of life. This reinforces how important it is to educate students in practice regarding TIC as they are the future of nursing and will have the biggest impact on patients. By identifying specific adversities during one's childhood through screening, a practitioner can start developing interventions at an earlier time decreasing the impact.

Finally, while the results of this study showed only 3 items which were statistically significant, however, each item increased in the numerical score for all items from the pre-survey to the post-survey. This supports an increase in knowledge and ultimately this is what the study

was trying to achieve. Some students had not even heard of TIC and now they will be able to have a working knowledge of it when they are interacting in the healthcare setting.

Also, SAMHSA has been bringing the concept of trauma, prevention, and implementation of TIC to the forefront of the nation. This organization's focus is on mental health and substance abuse, but they are aware that trauma is not isolated to just those types of individuals. Their benevolence has allowed other organizations to use their framework and tools without cost in order to develop policies and procedures for their organization and to assist those with a trauma history. This also includes schools and universities as they implement these tools and thread the concept of trauma-informed care throughout their curriculum to better prepare their graduates. This would allow new nurses, therapists, correctional officers, and social services to implement TIC approach with those they are interacting with on a daily basis.

5.5 Implications Related to Educational Leadership

Surprisingly, little is documented regarding the implementation of TIC in nursing programs and educational leaders need to take notice. Statewide, leaders have recognized that there is an issue and have developed laws which have enabled organizations to enhance their policies and philosophies to incorporate a trauma-informed approach. These policies have mandated public social services to become trauma-informed and provide resources to better serve their community by systematically training nurses, as well as those in the medical and social fields. In response to new initiatives, a serious effort to make all states trauma-informed including the educational system. These organizations will include schools and institutions of higher education. Therefore, educational leaders need to be trauma-informed, as well as trauma-sensitive and trauma-responsive. By leading by example, those serving under them or with them will also recognize the importance of and need for trauma-informed care.

The leaders will have to develop and implement policies and processes to support a trauma-informed approach, as well as advocate for change (Oehlberg, 2008). By looking at the bigger picture, educational leaders have the ability to develop trauma-informed schools allowing children to grow up in a healthier school climate. This will positively impact not only the child but the whole school as well, as the effects of trauma are evident in the classroom in every school. They should also realize the immediate and life-long effects for those in their charge. If they approach all students in a trauma-informed manner, they may possibly change the educational trajectory of the traumatized students. There are several states, such as Massachusetts and Oregon which have already developed programs for their districts. Collaborating with these states could establish relationships which may help in establishing the initial steps.

The results of this study highlight some important considerations for nursing educators as well. Nurse educators and leaders in their institutions should understand the importance of trauma-informed care, trauma approaches, and preventing re-traumatization in patients. All nursing students participate in clinical, so all could have had contact with patients with a trauma history. Educational leaders need to assess and, if necessary, develop curricula which will address this need. Also, there needs to be training for educators to teach them how to train and mentor the students.

Finally, TIC can be implemented into many different disciplines and practices in the educational setting, so the educational leaders need to have a wide vision of how faculty and students can benefit from TIC. Social services, criminal justice, education and any of the therapies in healthcare are just a few areas which can include TIC education into their curriculum.

5.6. Implications for Future Research

While there have been great strides in increasing trauma-awareness, the actual incorporation and education of trauma-informed care is lacking. Furthermore, after completing a review of the current literature, it revealed the impact of educating nursing students on ACEs and solidifies that TIC is under-researched. Additional research is needed to ensure nurses have an understanding and an awareness of ACEs and how to be a trauma-informed practitioner when caring for patients. The undergraduate studies for a nursing student contain a didactic and clinical component in many different healthcare fields to prepare them to be a generalist upon graduation. By implementing TIC teachings in every course, the graduate nurse will have formed a bedside approach in which patients would feel safe.

By implementing trauma-informed care education sessions and expanding it across the curriculum, further research could be completed in investigating its effectiveness. Also, this research was completed in an associate degree program and could be implemented in a bachelor of science in nursing, master of science in nursing, and at the doctoral level to assess for similar results.

For a longitudinal study, one could implement this study with first level incoming nursing students and then reassess their knowledge after graduation or at the end of the program to see the results and possibly complete a comparison. Additionally, this study could be administered through different types of programs to determine differences or similarities. However, this must be taught and implemented in all nursing classrooms and in the clinical setting. By fostering this in nursing practice it will truly have a positive impact on the trauma survivors.

Future studies could aim at implementing the principles and guidelines by promoting the 4R's and trauma-informed approaches. Simulation, role modeling, and mentorship can be used when developing this type of implementation. Self-efficacy can also be assessed when developing these learning activities.

Also, expanding and implementing other research designs and methods will allow for a deeper understanding. Although this was a quantitative study, a qualitative study would provide richer perspectives on nursing students' personal experiences and their interactions with patients with a history of trauma. Themes could be drawn out and identified to determine which ones are common for nursing students. This may be difficult, as there would need to be mental health resources available to students and the patients with the possibility of the research triggering past trauma. Unfortunately, not all colleges and universities have mental health services available for students.

Despite the search for empirical studies, there is an insignificant amount found in social sciences and even less in the discipline of nursing. Future research should focus not only in the nursing curriculum, but in criminal justice, allied health, education, and social sciences. These professions also work in conjunction with nursing on many different levels to help individuals in the community. This is a problem which does not only concern nursing, but all disciplines which serve clients exposed to previous trauma.

5.7. Conclusion

This research sought to determine the impact of an education session on a group of nursing students enrolled in a mental health course. The educational session has a positive impact on the perceived knowledge of the students involved in the study. This allowed the students to be better prepared when caring for trauma survivors. Also, enhancing their

knowledge of ACEs, TIC, and have the ability to recognize the physical, emotional, and cognitive effects trauma has on the patients or clients they will be caring for in clinal practice. It is imperative to continue to implement this education throughout the nursing curriculum to correctly advocate and prevent re-traumatizing these individuals.

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Appendix A

Consent Form

Trauma-Informed Care Education

You are being invited to participate in a research study about the impact of trauma-informed education on nursing students enrolled in a mental health course. Please read this form carefully and ask any questions you may have before agreeing to take part in the study.

There are no known risks if you decide to participate in the research study. There are no costs to you for participating in the study. The study will take approximately 30 minutes and the surveys will take 5 minutes to complete. The information collected may not benefit you directly, but the information learned in the study should benefit future patients in your care.

The surveys are anonymous. Do not write your name on the survey. No one will be able to identify your responses and no one will know whether or not you participated in the study. Your participation in this study is completely voluntary. By completing the pre-survey and post-survey, you are voluntarily agreeing to participate in the study.

You may decline to answer any question you do not feel comfortable answering. If you decide not to take part or to skip some of the questions, or if you decide to take part, you are free to withdraw at any time, without penalty. If you have any questions about the study, please contact Meredith Zeitler MSN, RN Principle Investigator. If you have any questions regarding your rights as a participant, contact the Office of Sponsored Programs.

You will be given a copy of this form to keep for your records.

Appendix B

Knowledge of Adverse Childhood Events and Trauma-Informed Care Pre-Survey

	Self-assessment of knowledge	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
1.	I know the definition of trauma.					
2.	I can describe the different types of trauma.					
3.	I am familiar with trauma-informed care.					
4.	I am able to identify the Principles of Trauma-Informed Care.					
5.	I am aware of the 4R's of the trauma-informed approach.					
6.	I can identify that patient behaviors may reflect a traumatic past.					
7.	I recognize the relationship of trauma and cognitive development.					
8.	I recognize the relationship of trauma and emotional regulation.					
9.	I recognize the relationship of trauma and physical manifestations.					
10.	I can describe the impact of ACE's on health outcomes.					

Previously, have you had training related to trauma? **Yes/No**
Previously, have you had training related to Trauma-Informed Care? **Yes/No**
Do you currently work in healthcare? **Yes/No**
Do you currently work in corrections? **Yes/No**
Do you currently work in mental health? **Yes/No**

Appendix C

Knowledge of Adverse Childhood Events and Trauma-Informed Care Post-Survey

	Self-assessment of knowledge	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree
1.	I know the definition of trauma.					
2.	I can describe the different types of trauma.					
3.	I am familiar with trauma-informed care.					
4.	I am able to identify the Principles of Trauma-Informed Care.					
5.	I am aware of the 4R's of the trauma-informed approach					
6.	I can identify that patient behaviors may reflect a traumatic past.					
7.	I recognize the relationship of trauma and cognitive development					
8.	I recognize the relationship of trauma and emotional regulation					
9.	I recognize the relationship of trauma and physical manifestations					
10.	I can describe the impact of ACE's on health outcomes					

Appendix D

Institutional Review Board - Human Subjects Protection Committee approval

DELAWARE STATE UNIVERSITY

Institutional Review Board – Human Subjects Protection Committee

February 22, 2019

Ms. Meredith Zeitler
Department of Education
Delaware State University
1200 N. DuPont Highway
Dover, DE 19901

Ms. Zeitler,

Delaware State University's Institutional Review Board (IRB)-Human Subjects Protection Committee has reviewed the requested modifications to the application for the research project entitled **"Exploring the Impact of Educating Student Nurses in Higher Education on Trauma and Trauma-Informed Care"**

The Committee has **approved** the modifications and permits you to start the project. The committee requires that a Final Study Report form be submitted before February 22, 2020 or once your project ends. Please send this report to:

Institutional Review Board
Office of Sponsored Programs
Attention: Chanel Haman
Delaware State University
1200 N. DuPont Highway
Dover, DE 19901

Sincerely,

Dr. Brian Fricl
Chair—Human Subjects Protection Committee

ckh

1200 N. DUPONT HWY. • DOVER, DE • 19901-2277 • (302) 857-6818 • Fax: (302) 857-6804

Appendix E

Letter of Intent

November 25, 2018

Re: Letter of Intent

Dear Dr.,

As a student in Delaware State University's Doctorate of Education program, I am writing for approval to complete research for my dissertation at the colllege. We had spoken on August 17, 2018 regarding my dissertation topic and plans for research.

Scope and Objectives

1. Educate nursing students regarding trauma and trauma-informed care as it relates to patients in the clinical setting.
2. Nursing students will learn how a patient is directly impacted cognitively, emotionally, and physically by adverse childhood experiences.

Methodologies

The students will be informed of the study and that their participation will be completely voluntary. As many as 80 students in a mental health nursing course will be asked to participate to assess the impact of an education session on trauma and trauma-informed care for nursing students.

For this study, a quasi-experimental, quantitative, one group, pretest-posttest research design will be implemented to obtain the impact of trauma and a TIC education session on nursing students currently enrolled in a mental health nursing course. In order to assess the impact I will use a 10 question pretest-posttest design with a Likert scale, as well as, 5 yes/no questions to gather demographics. I have provided the survey as an attachment.

Funding

There will be no cost to the college to implement the research.

Thank you for your time and consideration.

Regards,

Appendix F

Letter of Acceptance

APPROVAL PAGE

Delaware Technical Community College supports thoughtful, valid research designed to benefit the College and its students. However, the College is in no way obligated to approve research requests. Approval will be determined by 1) the study's potential benefit to the College and 2) the human and financial resources available for the level of support requested. Therefore, the decision of the Associate Vice President for Academic Affairs is final and non-appealable. In no instance shall research approval be granted to an individual who is not an employee of Delaware Tech.

It is the employee's responsibility to move the application through the signature process. Once you obtain the signatures of your Director/Dean and Campus Director, please allow two weeks for the application to be reviewed by Academic Affairs. Once approved, the employee will be notified via email and a signed PDF of the application will be attached. Hard copies of approved applications will be filed and stored in Academic Affairs, Office of the President.

[redacted] 12/10/18

DEAN/DIRECTOR **DATE**

[redacted] 12/14/18

VICE PRESIDENT/CAMPUS DIRECTOR **DATE**

[redacted] 1/17/19

VICE PRESIDENT FOR ACADEMIC AFFAIRS **DATE**

Updated February 27, 2018