

How Does Trauma-Informed Care Training Effect the Self-Efficacy of
Professionals Who Serve Juvenile Justice-Involved Youth?

by

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ABSTRACT

Juvenile justice reform and services that aim to improve the lives of children at risk for involvement in the system are teeming with discussions involving “ACEs (adverse childhood experiences) science” and trauma-informed care (TIC). While many professionals agree that addressing complex social issues like ACEs, childhood trauma, and toxic stress require strategies using trauma-informed approaches, there are still many variations of TIC definitions, implementation, and sustainability issues within child-serving systems. Implementation science suggests, among other considerations, that service professionals’ self-efficacy is a valuable predictor of the success of new or updated policies and practices. This thesis used secondary data gathered from TIC trainings held around the eastern TN region and compared pre- and post-survey responses to five questions collectively used to determine whether overall self-efficacy was significantly improved after the trainings. Results of five paired sample *t*-tests showed there was significant increases to all of the following measures of participants’ perceptions: 1) understanding of the impact of trauma on their clients, 2) understanding of the impact of trauma on themselves, 3) knowledge of the principles of TIC (as defined by SAMHSA), 4) ability to implement these TIC principles, 5) and knowledge of strategies to prevent the use of coercive interventions that may re-traumatize youth. More studies on TIC implementation and sustainability can help determine how youth-serving professionals can feel more equipped to help the vulnerable population they serve.

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CHAPTER I: INTRODUCTION

The Problem

Trauma-informed care (TIC) has become a popular topic among a variety of social science fields as a better way to address the impact of trauma on children and adults. This is largely in response to dissemination of established research on the negative effects of adverse childhood experiences (ACEs), another widely accepted term referring to a set of ten “unique maltreatment exposures” defined by the Centers for Disease Control and Prevention (CDC) (Wolff & Baglivio, 2017, p. 1497) resulting from landmark findings by Felitti et al. (1998). There is a general assumption that early detection and intervention of trauma to children “will result in improved outcomes, less need for more extensive and expensive services, and reduced long-term costs” (Hanson & Lang, 2016, p. 96). Frederick Douglass (1817-1895) exemplified this assumption by stating, “It is easier to build strong children than to repair broken men” (Garner et al., 2012, p. E224).

There are many examples of growing TIC practices across various fields. For instance, psychologists have developed specific trauma-focused therapeutic approaches that are evidence-based, utilizing an understanding of the effects of trauma, such as trauma-focused cognitive behavioral therapy (TF-CBT) that was shown to be effective in residential treatment facilities (Cohen et al., 2016). While trauma-informed interventions like this are distinct from definitions of TIC, they still share similar components. The

field of public health has declared childhood trauma a public health crisis (Dube, 2018; Women and Trauma Federal Partners Committee & United States of America, 2013) and aims to improve screening for ACEs in healthcare settings so that interventions can be sought to mitigate further harm. In fact, the American Academy of Pediatrics' (AAP) current guidelines endorse pediatricians screening for toxic, repeated, and extreme stress in their patients, all of which have negative effects (Garner et al., 2012). Lee et al. (2012) suggested that school counselors are similarly positioned to conduct early screening for trauma; allowing them to justifiably refer families to interventions like Functional Family Therapy (FFT) and Multisystemic Therapy—both of which have been shown to be cost-effective and reduce crime. Juvenile justice systems across the nation are focusing more heavily on finding evidence-based programs and treatments to address youth in corrections, but caution that program offerings must be matched to community needs, sustain new practices, and be widely accessible to be successful (Walker, Bumbarger, & Phillippi, 2015). A trauma-informed criminal justice system would reframe the entire “courtroom discussion,” according to Garbarino (2017), including the “developmental framework” around justice and “mitigating factors” in sentencing decisions (p. 32). Recent national news in law enforcement, like that of the death of Freddie Gray in Maryland, brought to light the pervasiveness of trauma among residents of Baltimore and led to a city-wide training initiative for all front-line city personnel to become trained in TIC (Damian, Gallo, Leaf, & Mendelson, 2017). Understandably, the field of social services, including child welfare, is saturated with talk of TIC, but clear definitions and implementation of this systematic-change vary greatly. There is also a lack of empirical

research on the effects of TIC on clients. Herein lies the problem: a need for more research on the effectiveness of TIC in systems involving “at risk” children, youth, and families.

The Importance of this Study

Consequently, there are federal and state initiatives and entities working to clearly define the elements of TIC, how it should be implemented and sustained across various fields, and how it impacts both the professionals using a trauma-informed approach and the individuals receiving services. Although significant gaps between research and practice exist, the Substance Abuse and Mental Health Services Administration (SAMHSA) has taken the lead in a comprehensive public health approach to addressing trauma by defining six key principles to TIC (Flatow, Blake, & Huang, 2015). Among the multitude of SAMHSA’s Center for Mental Health Service’s financial investments are two important national services specific to TIC development: the National Child Traumatic Stress Network (NCTSN) and the National Center for Trauma-Informed Care (NCTIC); both of which work to provide training, improve services, and give technical assistance in trauma care, as mentioned by Hanson and Lang (2016) in their review of TIC agencies and systems serving families and youth. Furthermore, the NCTSN defined eight “Essential Elements of a Trauma-Informed Juvenile Justice System” (2015) and a similar list of nine criteria to define a “Trauma-Informed Child and Family Service System” (2016). Guidelines like these give way to the creation of much needed assessment tools and empirical research that can and should be used to measure various

factors of TIC implementation including education of potential causes of trauma and ways to respond, increased awareness of the effects of trauma on clients and professionals, worker self-efficacy, adaptation to policy and practice changes towards a trauma-sensitive framework, and development of awareness of vicarious trauma and self-care among professionals. As Berliner and Kolko (2016) pointed out in their TIC commentary and critique, TIC initiatives are only valuable if they make a positive difference in improving the lives of individuals. Interestingly, staff attitudes have been shown to be a critical factor in successful implementation of TIC (Baker, Brown, Wilcox, Overstreet, & Arora, 2016). Data collection and analysis of these factors are essential to determining outcomes.

Specifically, this study will focus on a multi-system assessment specific to professionals who interact with juvenile justice-involved youth. This focus is due to interest in the recent reform to Tennessee (TN)'s juvenile justice laws that nuance changes towards a trauma-informed approach, as evidenced by recommendations set forth in the *Final Report* from the Joint Ad-Hoc Tennessee Blue Ribbon Task Force on Juvenile Justice (2017). There was also a policy brief published by the TN Commission on Children and Youth (TCCY) in April of 2018 that outlined trauma-informed recommendations for TN's juvenile justice system (McCollister, Hargrow, & O'Neal, 2018). This is a critical step in the right direction, as involvement in the juvenile justice system can be traumatizing in and of itself.

Defining the Variables

In the proposed quasi-experimental study, the variables will be defined by the tool used to gather data, which was the Trauma Informed Care Training Evaluation and Survey developed in 2018 by Dr. Andrea Clements, PhD, professor of psychology at East TN State University (ETSU) (personal communication, September 28, 2018). The survey has been given to over 1,500 participants in TIC trainings developed by Becky Haas, who was the director of Community Crime Prevention Programs at the Johnson City Police Department in TN at the time of this writing (personal communication, September 24, 2018). She has since become the Trauma-Informed Administrator for Ballad Health. The participants work in various fields that encounter clients who have most likely experienced trauma. For the purposes of this study, data will be segregated based on the position listed in the information-gathering section of the survey, including only those that may serve juvenile-justice involved youth in this data sample. The independent variable (IV) is the TIC training. There are several dependent variables (DVs) being measured, all of which are based on the participants' self-perceptions reported once at the end of the training but gathered in two ways: "prior to training" and "after training." These will be considered as pre and post- test responses. Each participants' response measures the following: 1) understanding of the impact of trauma on their clients, 2) understanding of the impact of trauma on themselves, 3) knowledge of the principles of trauma-informed care (as defined by SAMHSA), 4) ability to implement these TIC

principles, 5) and knowledge of strategies to prevent potentially re-traumatizing clients by use of coercive interventions.

The Research Questions

The questions to be explored in this study will pertain to each of the variables being measured. Does training on TIC increase perceptions of knowledge of the effects of trauma on themselves and clients in professionals working with juvenile-justice-involved youth? Does TIC training increase knowledge of the principles of TIC and confidence in the ability to implement these principles into their work? Does TIC training increase knowledge of ways to prevent coercive interventions with clients? Overall, these questions will summarize how the TIC training effects professionals' overall self-efficacy in working with juvenile-justice involved youth.

The Hypotheses

The hypothesis is that training on TIC will positively increase the knowledge of principles of TIC, effects of trauma, and alternative intervention strategies that prevent re-traumatizing clients to professionals who work with juvenile-justice involved youth. The null hypothesis for each of these is that TIC will have no statistically significant effect on professionals' perceptions of knowledge of each of these factors listed above.

Outline of the Paper

This thesis will start with discussion on the epidemic of ACEs and how these lead to toxic stress and trauma, which has continual effects on people long after childhood.

Specifically, studies on the impact of ACEs in juvenile justice will be presented.

Research on trauma-informed approaches will be discussed as ways to address, intervene, and prevent ACEs and their effects. Definitions and principles of TIC will be explained, and discussion of how nuances of TIC can be seen in policy and system reforms across various social science fields will be highlighted. The dearth of research on the impact and application of TIC will be noted, along with suggestions for further research around the topic. Finally, explorations will be made of why professionals' attitudes and perceptions matter when analyzing TIC implementations and practices.

The methodology used in this study will be explained by describing the instrument used to collect data and the training that was presented of which the instrument is measuring effects. Results from each variable will be explained, and conclusions will be drawn on whether TIC training produces positive effects on several perceptions of professionals that attended the training. Limitations will be stated, and further research involving TIC will be suggested.

CHAPTER II: LITERATURE REVIEW

ACEs

Trauma-informed approaches to social services have become on trend lately even though there is a lack of empirical research on its effectiveness and implementation into service provision. However, to begin to understand the need for TIC, particularly in the juvenile justice system, one must first understand the prevalence and effects of ACEs in general. It is given that ACEs are potentially one of many forms of trauma and therefore included in discussion around trauma care. As stated previously, the public health sector refers to ACEs as an epidemic. Dr. Robert Block, former president of the AAP is quoted as saying, “Adverse childhood experiences are the single greatest unaddressed public health threat facing our nation today” (as cited by Harris, 2014). A quick online search of the phrase “adverse childhood experiences” produced over 3,700 scholarly peer-reviewed articles published since 1995. The extent of research on this topic is enormous; however, as recently as 2012, the original study was referred to as “the largest, most important public health study you *never* [emphasis added] heard of” (Stevens, 2012, para. 1).

In fact, the original ACEs study originated from obesity research, another long-standing public health issue particularly for the United States. Stevens (2012) told the story of how Dr. Vincent Felitti, who ran an obesity clinic in San Diego, California, met Dr. Robert Anda, a medical epidemiologist studying how depression and hopelessness affect heart disease, through a third person, Dr. David Williamson, an epidemiologist at

the CDC. This led to their landmark mega-study through the CDC and Kaiser Permanente Health Appraisal Clinic in San Diego, CA that was first published in 1998 that involved over 17,000 responses from people receiving physical exams and completing surveys about childhood experiences, current behaviors, and health issues; most whom were white (75%), middle-class, college-educated (75%), middle-aged Americans (66%), and all of whom were insured (Felitti et al., 1998). The study sought to measure ten unique ACEs that may have occurred to the participant during the first 18 years of life: three of which fall under the domain of abuse (physical, emotional, and sexual); two are types of neglect (emotional and physical); and five are types of household dysfunction (having a parent/caregiver with mental illness, substance abuse issues, divorce or separation, incarceration, or having a mother who was treated violently). A cumulative ACE score between zero and ten was measured as the total number of ACEs a person reported on the binary yes/no survey, regardless of how many incidents or the severity of each ACE.

To increase generalizability, some later studies have broadened the scope of ACEs by adding more types, such as the five “expanded ACEs” that are community-level stressors: “experiencing racism, witnessing violence, bullying, experiencing foster care, and living in unsafe neighborhoods” used in the Philadelphia ACE survey (Wade et al., 2016, p. 137). Finkelhor, Shattuck, Turner, and Hamby (2013) added ACEs such as peer rejection and victimization, exposure to community violence, poverty, and poor academic performance, among others, in their study to improve the ACEs scale’s association with mental health symptoms. Many states, including TN, have utilized the “Behavioral Risk

Factor Surveillance System (BRFSS), a telephone survey conducted by the CDC, to assess how ACEs affect the state's general population" (CDC, 2015, About BRFSS ACE Data section). The BRFSS excluded the two neglect ACE questions; but results from the 32 states and the district of Columbia that have included the ACEs survey for at least one year from 2009-2014 have been strikingly similar to the major results of the original ACEs study.

Trauma and toxic stress. Studies sometimes use interchangeable terms like "potentially traumatic events (PTEs)" (Lang, Campbell, Shanley, Crusto, & Connell, 2016, p. 113) that refer generally to the same types of stressors as ACEs. Trauma is defined by Bowen and Murshid (2016) as "experiences that produce intense emotional pain, fear, or distress, often resulting in long-term physiological and psychosocial consequences" (p. 223). Child Welfare Information Gateway (2015) mentioned three different degrees of trauma: 1) *acute trauma* that follows "a single event that is limited in time (such as a car accident, shooting, or earthquake)" (p. 2), *historical trauma* that has accumulated over generations (affecting particular groups like immigrants, families with intergenerational poverty, and minorities), and 3) *complex trauma* that occurs more than once, accumulates over time, is severe, and causes long-term consequences (such as abuse/ neglect and polyvictimization). Furthermore, the Center for the Developing Child at Harvard University (n.d.) presented the importance of understanding three different types of stress listed below:

These three terms refer to the stress response systems' effects on the body, not to the stressful event or experience itself:

- **Positive stress response** is a normal and essential part of healthy development, characterized by brief increases in heart rate and mild elevations in hormone levels. Some situations that might trigger a positive stress response are the first day with a new caregiver or receiving an injected immunization.
- **Tolerable stress response** activates the body's alert systems to a greater degree as a result of more severe, longer-lasting difficulties, such as the loss of a loved one, a natural disaster, or a frightening injury. If the activation is time-limited and buffered by relationships with adults who help the child adapt, the brain and other organs recover from what might otherwise be damaging effects.
- **Toxic stress response** can occur when a child experiences strong, frequent, and/or prolonged adversity—such as physical or emotional abuse, chronic neglect, caregiver substance abuse or mental illness, exposure to violence, and/or the accumulated burdens of family economic hardship—without adequate adult support. This kind of prolonged activation of the stress response systems can disrupt the development of brain architecture and other organ systems, and increase the risk for stress-related disease and cognitive impairment, well into the adult years. (para. 3)

Major findings of the original ACEs study and BRFSS surveys. Major

findings of not only the original ACEs study but also the BRFSS surveys from various states are that ACEs are common, prevalent, interrelated, and have a graded dose-response relationship to negative life (e.g., poor health and behaviors) outcomes (Anda et al., 2006; Baglivio & Epps, 2015; CDC, 2015; Dong et al., 2004; Felitti et al., 1998; Gilbert et al., 2015). Figure 1 shows an example of the life-course trajectory that is implied for people with high ACE scores, based on the above-mentioned research:

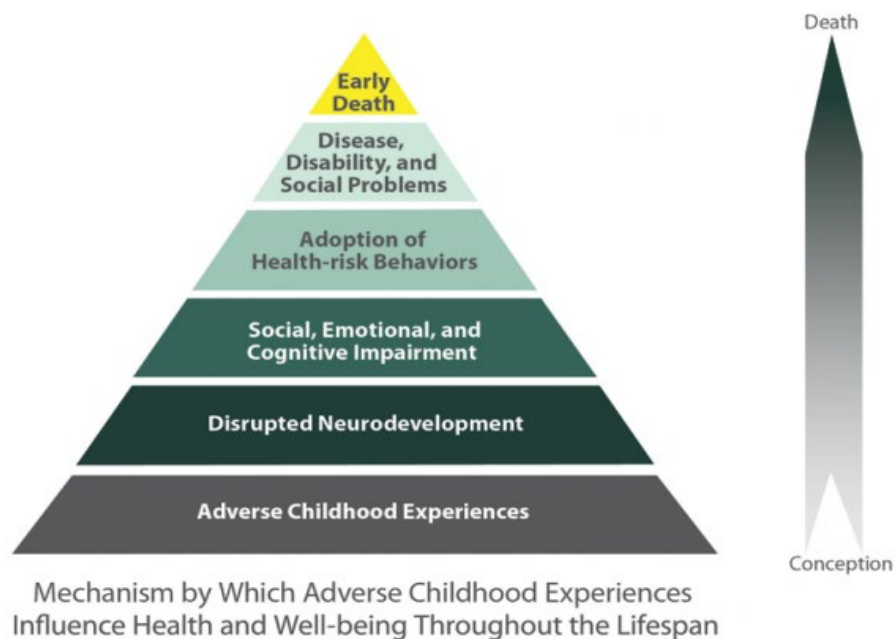


Figure 1. The ACE Pyramid (CDC, 2015). Retrieved from https://www.cdc.gov/violenceprevention/acestudy/ACE_graphics.html

The major findings were uniquely different than previous studies in that only *individual* stressor effects, including household dysfunction during childhood, had been measured on people's long-term health and behaviors previously (Felitti et al., 1998). These breakthrough results showed over 40 correlations between ACEs and negative life outcomes (especially for people with four or more ACEs), such as heart disease, asthma, high blood pressure, chronic lung disease, skeletal fractures, liver disease, cancer, depression, early death, smoking, alcoholism, obesity, physical inactivity, low income, unemployment, involvement in violence (interpersonal and self-directed), substance use, incarceration, risky sexual behavior, unintended pregnancies, cognitive impairments,

poor emotional regulation, and low impulse control (Anda, Butchart, Felitti, & Brown, 2010; Anda et al., 2006; Dong et al., 2004) due to this “cumulative stressor approach” (Baglivio & Epps, 2015, p. 180). Furthermore, Anda et al. explained in subsequent studies that “the use of the ACE score as a measure of the cumulative traumatic stress exposure during childhood is consistent with the latest understanding of the effects of traumatic stress on neurodevelopment” (as cited in Baglivio & Epps, 2015, p. 180). Similarly, Scott, Burke, Weems, Hellman and Carrion described the “interrelatedness of ACEs, and findings that exposures are not random in that exposure to one ACE type increases the likelihood of exposure to other ACEs, increas[ing] the importance of taking into account the collective composite of exposures” (as cited by Wolff & Baglivio, 2017, p. 1498).

Regarding ACEs being common and prevalent, results from both the original Felitti et al. study (1998) and the BRFSS studies showed “almost two-thirds of surveyed adults report at least one ACE, and more than one in five reported three or more ACEs” (CDC, 2015, About BRFSS ACE Data: Major Findings section). “But our society has tended to treat the abuse, maltreatment, violence and chaotic experiences of our children as an oddity instead of commonplace, as the ACE Study revealed, notes Anda,” as quoted from Stevens (Changing the Landscape section, para.13, 2012). In fact, 87% of those who reported having at least one ACE also reported two or more ACEs (Stevens, 2012), alluding back to the co-occurring likelihood noted above. Having multiple ACEs is called polyvictimization, a term coined by Finkelhor, Ormrod, and Turner (2009). Below is an

example of specific state findings from the 2012 BRFSS surveys, from TN's Department of Health ([TN DOH], 2015):

ACEs are widespread, common and prevalent in Tennessee. ACEs are found across the state, with multiple counties in which 42% of the population has experienced two or more ACEs. Overall, 52% of the statewide population had at least one ACE, while 21% had three or more ACEs. Emotional abuse, substance abuse and parental separation or divorce rank as the most common adverse experiences. In addition, males and females are exposed to adverse childhood experiences at about the same rate with the exception of sexual abuse, for which females report higher rates of exposure. (p. 3)

The report noted that the data was likely underestimated due to an exclusion of "certain groups of individuals including those who are homeless, in prison, or do not have phones. In addition, ACEs data is population level data and should not be used to predict individual risk" (TN DOH, 2015, p. 3).

Increased risk for marginalized groups. Certain population groups have been shown to be even more susceptible to the negative effects of ACEs or at least at risk for having a higher prevalence of ACEs. For instance, Wade et al. (2016) hypothesized "that poverty creates disparities such that impoverished adults have stronger associations between ACEs and poor health than wealthier adults" (p. 136). While the prevalence of ACEs was found across all socioeconomic statuses (SES) in their study, a lower SES was found to give a greater degree of odds of mental illness, sexually transmitted infections, and substance abuse issues compared to those with higher SES. Wade et al. further speculated that "high-risk behavior may be magnified by adult poverty if these

individuals live in deprived neighborhoods with limited options for healthy behavior and easy access to illicit substances, risky sexual practices, or alcoholic beverages” (p. 144).

When Gilbert et al. (2015) studied 2010 data from the BRFSS surveys from ten states, they found the following:

the highest ACE scores (i.e., four to six and seven to nine) were reported by a higher percentage of women compared to men; Hispanic, black, American Indian/Alaskan native, and multi-racial Americans compared to white Americans; those who had not graduated college or technical school compared to those who had; and those earning < \$25,000 per year compared to those earning > \$50,000 per year. (p. 2)

Furthermore, Baker et al. (2016) referenced several sources when corroborating that “low-income and ethnic minority youth are at even greater risk of experiencing ACEs (Adams, 2010; Alim et al., 2006; Lipschitz, Wineger, Hartnick, Foote, & Southwick, 1999; Sochting, Corrado, Cohen, Ley & Brasfield, 2007)” (p. 61). Also, Burke, Hellman, Scott, Weems, and Carrion (2011) found that only 3% of youth from low-income urban neighborhoods with zero ACEs had learning or behavior issues, compared to almost 21% of the same population with one to three ACEs, and over 51% with four or more ACEs.

Children within the child-welfare system (CWS) follow this prevalence trend as well. Youth aging out of foster care have considerable history of trauma and are about twice as likely as general population peers to have post-traumatic stress disorder (PTSD) (Salazar, Keller, Gowen, & Courtney, 2012). Miller, Green, Fettes and Aarons (2011) reported around 85% of children involved in the CWS have at least one ACE; and Stambaugh et al. (2013) said those children are almost four times as likely to have four or

more ACEs than peers not involved with the CWS. It stands to reason that involvement with the CWS can be traumatizing to children in and of itself. Additionally, “juvenile offenders have been shown to have higher rates of ... (ACEs) than the general population (Dierkhising et al., 2013; Evans-Chase, 2014) and are 13 times less likely to have no ACEs (Baglivio, Epps, Swartz, Huq, & Hardt, 2014)” (as cited in Wolff, Baglivio, & Piquero, 2017, p. 1211).

High cost of ACEs. What does all this mean in terms of cost? In terms of life expectancy, Brown et al. (2009) found that people with high ACE scores (six or more) died almost 20 years earlier compared to people without ACEs. The AAP postulated the high cost and the urgency of reducing ACEs in the 2012 policy statement (Garner et al., 2012) by saying,

given the extent to which costly health disparities in adults are rooted in these same unhealthy lifestyles and persistent inequalities, the reduction of toxic stress in young children ought to be a high priority for medicine as a whole and for pediatrics in particular. (p. e225-e226)

In 2012, a study from the CDC (Fang, Brown, Florence, & Mercy, 2012) estimated the following:

average lifetime cost per victim of nonfatal child maltreatment is \$210,012 in 2010 dollars, including \$32,648 in childhood health care costs; \$10,530 in adult medical costs; \$144,360 in productivity losses; \$7,728 in child welfare costs; \$6,747 in criminal justice costs; and \$7,999 in special education costs. The estimated average lifetime cost per death is \$1,272,900, including \$14,100 in medical costs and \$1,258,800 in productivity losses. The total lifetime economic burden resulting from new cases of fatal and nonfatal child maltreatment in the United States in 2008 is approximately \$124 billion. In sensitivity analysis, the total burden is estimated to be as large as \$585 billion. (p. 156)

ACEs and the Juvenile Justice Population

As previously discussed, youth in the juvenile justice system often carry the burden of a higher prevalence of ACEs. The juvenile justice system was described by Ko et al. (2008) as “a ‘multi-faceted array of interconnecting organizations,’ including law enforcement agencies, courts, school, detention centers, and community rehabilitation programs, with each organization endorsing competing goals and directives” (p. 400). Also, Ko et al. summarized, “although some delinquent youths have not been traumatically victimized, traumatic victimizations may tip the scales for many youths and put them on—or lock them into—a path to delinquency” (p. 400). The same article suggested that without reform, the system will continue contributing to “deviant behavior, retraumatization, and chronic justice involvement” (as cited by Donisch, Bray, & Gewirtz, 2016, p. 126).

Recidivism of juvenile offenders. When it comes to recidivism, some commonly used juvenile justice practices exacerbate the problem. For example, the 2015 policy brief from TN’s TCCY stated that boot camps have proven to not only be ineffective, but often increase recidivism rates by about eight percent (Gilbert, 2015). Simply incarcerating juveniles for status offenses or placing them out of their homes for these types of offenses can also increase the likelihood of recidivism in some cases, according to the *Final Report* from the Joint Ad-hoc Tennessee Blue Ribbon Task Force on Juvenile Justice (2017). Moreover, the report cited Dr. Edward Mulvey from a presentation to the Task Force summarizing that “over-involvement with the juvenile justice system can increase

recidivism for youth with limited prior history” (p. 11). The 2018 TN policy brief from the TCCY stated that Pickens (2016) suggested detention can be counterproductive for traumatized children, who more often perceive that environment as threatening and respond with aggression and disassociate with others as a form of self-protection (McCollister et al., 2018). The same report indicated that Holman and Ziedenberg’s research suggests detention also intensifies mental health issues, limits educational access and therefore access to the labor market, and increases recidivism (as cited in McCollister et al, 2018). Wolf and Baglivio (2017) found that ACEs in a juvenile justice population “had a significant direct effect on recidivism” and that negative emotionality (experiencing one’s environment in a generally negative way) “significantly increased the likelihood of being rearrested” (p. 1509). Wolff and Baglivio also stated that their findings confirmed previous research that showed “early age of onset, antisocial peer associations, and substance use increase the likelihood of recidivism” (p. 1510), and that a diagnosis of a “learning disability or emotional/ behavioral disorder was predictive of re-offending” (p. 1511).

Other studies specific to ACEs and juvenile offenders. Grasso, Dierkhising, Branson, Ford, and Lee (2016) found that polyvictimized youth were most likely to report the highest level of juvenile justice involvement and that early childhood polyvictimization was often a “gateway” for more polyvictimization in later adolescence (p. 883). Wolff, Baglivio, and Piquero (2017) cited several sources that found youth males who experienced ACEs were more likely to become violent and delinquent, and

youth females with ACEs had “double the risk of arrest for violent offenses” (p. 1215). Moreover, the same article noted prior research showing girls in the justice system had higher exposures to “sexual assault and interpersonal victimization,” while boys reported “higher rates of witnessing violence” (p. 1216). Ko et al. (2008) reported several studies with similar findings:

Clinical (Cauffman, Feldman, Waterman, & Steiner, 1998) and epidemiological (Abram et al., 2004) studies indicate that at least three in four youths in the juvenile justice system have been exposed to traumatic victimization, and 11%-50% of youths in the juvenile justice system have PTSD (Abram et al., 2004; Arroyo, 2001; Garland et al., 2001; Teplin, Abram, McClelland, Dulcan, & Mericle, 2002; Wasserman, McReynolds, Lucas, Fisher, & Santos, 2002). Brosky and Lally (2004) reported high rates of trauma exposure in children who were referred to a court clinic—especially girls—and most of their sample reported significant behavioral health problems, with one in nine (11%) meeting criteria for PTSD. Many justice-involved youths also are or have been involved in the family court system as a result of victimization (Barth, 1996). (p. 400)

Buffington, Dierkhising, and Marsh (2010) explained that many juvenile justice-involved youths that have experienced “chronic or complex trauma” receive diagnoses of mental health and conduct disorders based on their symptoms instead of in-depth assessments of their history that would direct services to address those experiences that lead to their symptoms (p. 18). There are several assessment tools available that can not only screen for risk and needs, but also ACEs and trauma histories; which Buffington et al. (2010) also suggested is “ethically imperative to use” to “make accurate diagnoses” and informed treatment choices (p. 18).

Wolff et al. (2017) noted that there is a lack of research into correlates between ACEs, juvenile offending, and recidivism, which may be due to a lack of scrupulous data

collection on ACEs in the juvenile justice population. This shortage in research includes another important consideration of the effects of ACEs—disproportionate minority contact in the juvenile justice system (Dierkhising & Branson, 2016). However, states are slowly deciding to mandate centralized data collection efforts, like TN who recently legislated this in the Juvenile Justice Reform Act of 2018 so that evidence can guide future programming decisions with consideration to these specialized issues. With many social science fields beginning to move to a trauma-informed system of care, which asks “What happened to you?” instead of “What’s wrong with you?” it is especially important to collect data and form evidence-based decisions. Ko et al. (2008) summarized the reasoning behind this push for system change well by explaining:

When exposed to coercion, cruelty, violence, neglect, or rejection, a child may cope with indifference, defiance of rules and authority, or aggression as a self-protective counterreaction. These defensive attempts to overcome or resist the helplessness and isolation caused by victimization often are motivated by the desire to regain the ability to feel safe and in control rather than by the callous indifference often assumed to be driving delinquency. Thus, traumatic stress, if not addressed in the juvenile justice services, may contribute to a downward spiral of increasingly deviant and risky behavior, retraumatization, and chronic juvenile (and adult criminal) justice involvement. (p. 400)

Protective factors to mitigate ACEs/trauma and reduce delinquency. While it is important to reduce risks to ACEs, trauma, toxic stress, and/or reoccurrence of any of these, it is also vital to increase protective factors that can prevent and/or mitigate further harm from unhealthy adversity. A common question in the field of juvenile delinquency is “What makes some kids fail and others thrive when faced with adversity?” While temperament and personality are considerations, often the answer lies in the presence or

lack of these protective factors. Buffington et al. (2010) explained that what might traumatize one child may not affect another; therefore, interpretation also plays a role. Child Welfare Information Gateway (2015) also noted that the age of the child, health of the child, frequency of the PTE, and perceived severity of the PTE are also factors to be considered alongside protective factors. Summarized below are five well-established protective factors from the Center for the Study of Social Policy's *Strengthening Families* brief (2015):

- 1) Parental Resilience: the ability to manage stress through one's attitude, decisions, and coping skills without succumbing to negativity
- 2) Social Connections: sustained relationships with others based on mutual respect, support, values, and participation
- 3) Knowledge of Parenting and Child Development: understanding healthy nurturing skills, age appropriate developmental stages, positive discipline and behavior management techniques, and responding to needs appropriately
- 4) Concrete Support in Times of Need: the ability to seek, advocate, and receive help as needed, knowledge of community services, and meeting basic needs
- 5) Social and Emotional Competence of Children: the ability to form and nurture strong attachments, boundaries, and identity that therein build children's abilities to self-regulate, form healthy relationships, and develop effective communication skills.

The Office of Juvenile Justice and Delinquency (Development Services Group, Inc., 2015) conceptualized these buffering factors across five domains that specifically help buffer against delinquency, based on the theoretical concepts of social learning and social control theories. The five domains are individual, family, peer, school, and community levels; with each level having factors and indicators that can be measured.

Protective factors in each domain are summarized below:

- 1) Individual: high expectations, positive temperament, resiliency, social competency, problem-solving skills, healthy lifestyle, plans for the future, and community and religious connections
- 2) Family: stable and positive family/ parental support, healthy attachments, and prosocial bonds
- 3) Peer: healthy friendships, engagement in positive peer activities, and positive role models
- 4) School: high academic expectations, age-appropriate skills, quality education systems, clear boundaries, opportunities and motivation for prosocial involvement
- 5) Community: safe neighborhoods, supportive environments, equality, expectations for youth to finish school and engage in community, and availability of resources and activities.

Researchers have investigated the presence or lack of particular protective factors to see what effects they have on youth. De Vries, Hoeve, Stams, and Asscher (2016)

found that youth having cognitive distortions mediated an association between parental attachment and aggressive behavior, and that having deviant peers and poor parental monitoring mediated an association between attachment and delinquency. Their study supported the importance of clinicians focusing on building attachment between youth and parents to increase protective factors and therefore decrease risks that lead to aggressive and delinquent behavior. Similarly, Wolff and Baglivio (2017) found that negative emotionality (negatively interacting with people in one's surroundings) increased the likelihood of re-arrest among juvenile offenders, which led them to suggest targeted interventions for traumatized youth such as Aggression Replacement Therapy and skills training. When Craig, Baglivio, Wolff, Piquero, and Epps (2017) studied whether social bonds buffer the impact of ACEs on reoffending, they found that stronger social bonds did not moderate the re-arrest rates on juveniles exposed to six or more ACEs. However, for youth with zero to five ACEs, those with stronger social bonds were less likely to be rearrested than those who had weaker bonds. Their research suggested the importance of early intervention and prevention of ACEs, as isolated protective factors are not enough to mitigate against negative outcomes. Baglivio and Epps (2015) proposed more research should be done to assess if there are differences in protective factors based on gender and race/ ethnicity and whether protective factors indeed “mitigate the effects of ACE exposure once they have occurred” (p. 193).

Protective factors can promote healthy and positive lifestyles and buffer against negative experiences. But the path to which communities adjust policies, laws, and social

constructs to promote, achieve, and sustain all these factors is a very complex issue. As

Khanlou and Wray (2014) stated,

even when such protective factors appear firmly in place, if the level of risk in the social environment is high then the lower rate of resilience is evident... Ultimately, the higher the odds of social adversity, the less likelihood of an individual overcoming such adversity or 'beating the odds.' ... So while we can talk colloquially and enthusiastically about 'beating the odds,' ... [there is] ample evidence for reinforcing policy and action that 'changes the odds.' (p.74-75)

This is where TIC comes into play: In the same way Khanlou and Wray (2014) advocated for a "whole community approach to resilience" interventions (p. 76), TIC provides this and other protective factor-strengthening concepts to whatever agency or social domain is willing to adopt it.

TIC

TIC could be considered a compilation of protective factors in the way the ideology behind TIC is to prevent further harm while serving victims, perpetrators, and delinquents. Hanson and Lang (2016) pointed out that there are various but similar definitions of TIC across literature and that strategies for becoming TIC varied. Bowen and Murshid (2016) stated that a "trauma-informed care approach recognizes the intersection of trauma with many health and social problems for which people seek services and treatment, aiming to sensitively address trauma along with an individual's issues" (p. 223). In their review titled "SAMHSA's Concept of Trauma and Guidance for a Trauma-Informed Approach in Youth Settings," Flatow et al. (2015) emphasized that a "trauma-informed approach does not simply raise awareness of the issue of trauma, but fundamentally changes an organization or system's culture, behavior, actions, and

responses.... [and] can be implemented in any type of service setting or organization” (p. 34). They explained SAMHSA uses what is known as the “three Es” to define trauma: *event(s)* that describe the trauma, *experience(s)* of the event(s), and *effect(s)* from the experience (which is the guiding definition used in the training provided in conjunction with this thesis study’s data collection process) (B. Haas, personal communication, October 8, 2018). Flatow et al. (2015) further described four elements essential to a trauma-informed approach: *realizing* trauma by understanding its effects, *recognizing* signs of trauma, *responding* to trauma, and *resisting* further traumatization to clients and staff. Donisch et al.’s (2016) study of trauma-informed practice revealed general understanding among practitioners that TIC “represents a family-oriented perspective (i.e., ‘multi-generational approach to trauma,’ ‘identifying family trauma history’), embodies a systems approach (i.e., ‘change across systems,’ ‘cross-system collaboration’), and underscores a general understanding of evidence-based practices” (p. 128).

Indeed, different settings can have variations of what trauma care, education, response, and prevention look like based on the unique needs of each system. In a thorough, systematic review of TIC definitions and components that relate specifically to juvenile justice systems, Branson, Baetz, Horwitz, and Hoagwood (2017) identified three major areas of focus with ten domains across these areas that were commonly recommended among scholarly publications, as seen in Table 1:

Table 1

Core Domains of Trauma-Informed Care for Juvenile Justice

Area of focus	Domains within this area
Clinical services	1. Screening & assessment 2. Services & interventions 3. Cultural competence
Agency context	4. Youth & family engagement/involvement 5. Workforce development & support 6. Promoting a safe agency environment 7. Agency policies, procedures, & leadership
System level	8. Cross-system collaboration 9. System-level policies & procedures 10. Quality assurance & evaluation

From “Trauma-Informed Juvenile Justice Systems: A Systematic Review of Definitions and Core Components,” by C. E. Branson, C. L. Baetz, S. M. Horwitz, & K. E. Hoagwood, 2017, *Psychological Trauma: Theory, Research, Practice, & Policy*, 9(6), p. 639. Copyright 2017 by American Psychological Association. Reprinted with permission.

While their study illustrated general consensus for focus on the core domains, their findings also highlighted less agreement on “key practices or policies that comprise a trauma-informed approach for juvenile-justice” (p. 643) and how to implement them.

Given the rising popularity of TIC, this points to the need for more research to refine the definitions and core components of TIC in various systems.

TIC as a more effective approach to juvenile justice. Baglivio and Epps (2015) asked the overarching question, “Is the provision of trauma-informed services to ACE-exposed juvenile offenders a meaningful life event/transition that can ‘redirect paths’ on a more positive trajectory?” (p. 193). A trauma-informed juvenile justice system is

uniquely positioned to provide a structured, resourceful, and supportive temporary environment while typically victimized youth can learn new, healthier ways to cope with the trauma they have experienced that has led to their deviant behavior (Pickens, 2016). While juvenile justice systems continue to explore variations between traditional correctional and punitive approaches versus more rehabilitative and therapeutic approaches, constitutional issues like shackling policies or institutionalizing children for minor status offenses have been questioned. Issues like these are just a couple of the many examples of reconsiderations in policies needed when transitioning to TIC; as shackling, for example, can exacerbate trauma to youth, contribute to implicit bias of decision-making in court, be used to bully and intimidate them, and undermine rehabilitative efforts (Groman, 2015). The same article pointed out that research shows youth having to appear in court for status offenses “nearly quadruples the chance that a youth will fail to complete high school ... [which is] twice as damaging by this measure as arrest alone” (p. 27). Some states, like TN, have recently legislated adjustments to laws to help mitigate the negative impact of arrest for status offenses (e.g., suggesting courts be allowed to divert lower-level youth from the system by use of informal adjustments) (Joint Ad-hoc Tennessee Blue Ribbon Task Force on Juvenile Justice, 2017). Efforts like these to reduce further trauma imposed by the system have shown to have positive impacts on reducing recidivism and improving outcomes for juvenile-justice involved youth (Gilbert, 2015). When Lipsey (2009) compared juvenile justice systems’ surveillance and deterrence efforts against therapeutic interventions, he found a substantial decrease in recidivism among those groups using strategies like restorative

justice, counseling, and skill-building. More results of TIC implementations are reviewed in the next sub-section of this review.

While there is a distinction between TIC and trauma-informed interventions, some evidence-based trauma-informed interventions are worth briefly mentioning. Figure 2 shows an example of effective trauma-informed interventions/ treatments currently being used:

There are a variety of treatments that research suggests are effective in working with youth who have experienced trauma. A comprehensive list of such treatments and supporting documentation is available at http://www.nctsn.org/nctsn_assets/pdfs/CCG_Book.pdf. Some of the more common evidence-based treatments, however, include (in no particular order):

Cognitive Behavioral Intervention for Trauma in Schools (CBITS): Tested with youth who have experienced violence and complex trauma. CBITS is provided in a group format in schools, residential programs, and other similar environments.

Trauma Affect Regulation: Guide for Education and Therapy (TARGET-A): TARGET-A shows evidence of effectiveness with youth who are in correctional facilities, residential settings, and community-based programs. This model can be practiced in group, individual, and family formats, which helps both youth and families to better understand trauma and stress, and to develop skills that help them to think through, and regulate, their emotional, cognitive, and behavioral responses to stress triggers.

Trauma-Focused Cognitive Behavioral Therapy (TF-CBT): Youth (and their parents, possibly) are taught to process the trauma; manage distressful thoughts, feelings, and behaviors; and enhance both personal safety and family communication. It can be provided over a relatively short period of time in virtually any setting.

Sanctuary Model: The Sanctuary Model promotes system change based on the creation and maintenance of a nonviolent, democratic, productive community to help

individuals heal from trauma. The model provides a common language for staff, clients, and other stakeholders, and can be adapted to several settings and populations.

Figure 2. Evidence-Based Treatments for Working with Youth Who Have Experienced Trauma (Buffington et al., 2010, p. 19). Copyright 2010 by National Council of Juvenile and Family Court Judges. Reprinted with permission.

One such example of the success of these types of treatment models can be shown in the implementation of the Sanctuary model at a girls' residential unit in northern

Pennsylvania. Elwyn, Esaki, and Smith (2017) explained:

while trauma-focused treatment may be beneficial, and can be used in conjunction with trauma-informed care, the advantage to trauma-informed models in residential settings is that they explicitly target the entire organization and its culture and, thus, the day-to-day environment where crises and negative behaviors are most likely to occur. [Everyone] ... become[s] responsible for the therapeutic response. (p. 107)

Elwyn et al. not only found improvements in youth behavior (decreased use of restraints, fewer assaults to staff, less fear among residents, and an increased sense of safety, community, openness, positive attitudes, belonging, and validation), but employee experiences improved substantially as well (huge decline in staff turnover; decreased stress level and fear for safety; and increased attitudes in shared responsibilities, safety, openness, positive role-modeling, leadership, engagement). Ossowski and Rosenzweig (2015) proposed the positivity of becoming trauma-informed by saying it “has the potential to reshape relationships we have with young people, change our own perceptions of their behaviors, rewrite the policies that guide organizational practices, and encourage all of us to become agents for a more just society” (p. 4).

Studies of TIC implementations. As evidenced previously, TIC in youth-serving settings can be impactful. However, Baker et al. (2016) reported there has been a struggle to “translate the research on ACEs and trauma into on-the-ground policies, procedures, and practices” (p. 62). Nevertheless, with a growing understanding of trauma and its connections to health and well-being, federal and state systems are increasing their trauma focus. For example, according to SAMHSA (2014), Oregon has examined trauma across various population cohorts; Maine, Massachusetts, and Connecticut are integrating TIC into their child-serving systems; New York is aiming for the same for their juvenile justice system; and Missouri has focused on becoming trauma-informed with adult mental health care. Baker et al. (2016) further summarized various attempts to develop trauma-informed systems and their results:

Findings [from TIC application in schools] suggest that trauma-informed schools can be associated with reductions in suspensions, expulsions, and written referrals (Stevens, 2012)... TIC has been demonstrated to build knowledge, change attitudes, and develop practices favorable to TIC (Brown, Baker, & Wilcox, 2012; Green et al., 2015), including reduced use of restraint and seclusion (Azeem, Aujla, Rammerth, Binsfeld, & Jones, 2011; Chandler, 2008; Hodgdon, Kinniburgh, Gabowitz, Blaustein, & Spinazzola, 2013). Clients in trauma-informed systems have been shown to have greater symptom reduction, reduced time in treatment prior to discharge, improved rates of discharge to a lower level of care, and improved mental health and substance abuse outcomes (Greenwald et al., 2012; Hodgdon et al., 2013; Morissey et al., 2005). In the only controlled study focused on youth thus far, implementation of the Sanctuary Model in residential treatment was associated with more autonomous, supportive, and safe treatment environments and greater client gains in coping skills and feelings of control, in comparison with treatment as usual (Rivard, Bloom, McCorkle, & Abramotivz, 2005). Finally, trauma-informed related change efforts, such as restraint and seclusion reduction, have also been shown to save money (Lebel, 2011). In sum, even given the limitations of the current research base on TIC, there is growing evidence to suggest that it holds considerable promise to address

the public health problem associated with ACEs and trauma within both schools and treatment settings. (p. 62)

Efficacy issues and whole system adoption of the TIC approach. Quality of the implementation process, staff readiness for change, and other organizational factors can prevent or impede successful TIC incorporation into any system (Elwyn et al., 2017). Considerations such as these can be studied for indicators of overall staff self-efficacy, which is an important predictor of the success and barriers of new practice/ policy implementation (Baker et al., 2016). Cross-system collaboration, as mentioned before as one of the ten common domains of TIC in juvenile justice systems (see Table 1), was also frequently found as a suggestion among other systems around discussion of TIC implementation (Donisch et al., 2016; Hanson & Lang, 2016; Lang et al., 2016). Baker et al. (2016) pointed out that implementation can be more successful if a system has reached a certain readiness level, which can be measured by assessing attitudes; but this can otherwise be counterproductive if staff are not found to be ready to accept these changes. In fact, in the same article Baker et al. discussed their development of a measurement tool called the ARTIC (Attitudes Related to Trauma-Informed Care) Scale that has been shown to produce reliable and valid evaluations of attitudes of TIC providers across various types of systems. Damian et al. (2017) noted that implementation science suggests staff “*change efficacy* ... the degree to which personnel think they are capable of implementing a change” (p. 2), among the other issues discussed here, are important factors to consider. Furthermore, factors like leadership and support can influence staff willingness to implement new changes, while compassion fatigue, burnout, and

secondary trauma can impede changes especially if these issues are not adequately addressed (Damian et al., 2017). Another factor supporting feelings of self-efficacy in staff is their perceived preparedness to not only screen accurately for trauma, but to then know what to do about it (e.g., referrals for treatment in the area) and how to react appropriately (Berliner & Kolko, 2016). Lastly, while all youth-serving systems can benefit from adopting TIC and working cohesively for the betterment of the youth they serve, practical application for each type of service (child protection, juvenile court, schools, pediatrics, etc.) must inevitably differ, therefore complicating the systemization of TIC implementation (Donisch et al., 2016; Lang et al., 2016). More research is certainly needed to continue developing various aspects of TIC such as implementation and long-term impacts on systems like juvenile justice.

CHAPTER III: METHODOLOGY

Data Collection

The secondary data used in this thesis was collected from the results of the Trauma Informed Care Training Evaluation and Survey, which is attached as Appendix A. This survey was voluntarily self-administered after each participant completed a three to four-hour TIC training session. Only the responses to the first section (five Likert-scale questions with pre- and post-training response options) and the last section (demographic information collected under the “General Information” section) was used for the purposes of this thesis.

Sampling Method

The TIC training is purposely broad and nonprescriptive so it can be utilized by various agencies and services. In general, the training provides an overview of ACEs from the Building Strong Brains curriculum, trauma education based on SAMHSA’s principles, and persuasive discussion on developing community-wide systems of care. Over 3,500 participants across northeastern TN, western North Carolina (NC), southwest Virginia (VA), and Pennsylvania (PA) have received the specific TIC training associated with the data collection used in this study. Since 2016 when the trainings began, almost 1,600 surveys have been collected from various professionals (mostly from northeastern TN) that may have encountered traumatized people throughout their work experience. For the purposes of this thesis, only those who indicated being in a current position that

may serve juvenile justice-involved youth in the information-gathering section of the survey on the last page are included in the sample. This broad scope may include police officers, juvenile justice court or probation staff, youth-specific community agencies, teachers and staff from middle and high schools, mental health professionals that serve youth, employees from the Department of Children's Services, pediatricians and their staff, etc. This purposive, non-probability sampling method captured as many completed surveys as possible to represent a population of professionals that may work with juvenile justice-involved youth in the northeastern TN region where this particular training has been offered.

Variables

The major IV studied is having received the TIC training, which is a nominal variable. There are several DVs that were measured, all of which are based on participants' self-perceptions reported once at the end of the training and gathered in the first section of the survey shown in Appendix A. These five DVs are ordinal variables with response choices of "poor," "fair," "good," "very good," "excellent," and "NA." The DVs as follows measure participants' perceived: 1) understanding of the impact of trauma on their clients, 2) understanding of the impact of trauma on themselves, 3) knowledge of the principles of trauma-informed care (as defined by SAMHSA), 4) ability to implement these TIC principles, 5) and knowledge of strategies to prevent potentially re-traumatizing clients by use of coercive interventions. Also, the demographic information of each respondent's current position, state and county of employment, age,

gender, and race were accounted for as control variables, all of which are nominal variables, except for age which is a ratio variable.

Research Design

This study used a quasi-experimental “before and after” design because it included two of the five possible elements of research designs: treatment and pre/post testing. The treatment was having attended the TIC training, which is hypothesized to have a positive impact on each of the DVs listed previously. The pre- and post-test was in the first section of the survey attached in Appendix A, which asked each respondent to scale their response “prior to training” and “after training.”

CHAPTER IV: RESULTS

Descriptive Statistics

After filtering the data, the sample frame was reduced to 281 responses analyzed in this study. The full population trained (1,574) by the time this secondary data was collected included participants excluded from the sampling frame due to their professional role being outside the scope of the targeted participants. Also, the survey tool varied depending on the target audience at each training location, so their responses were excluded if the survey did not include the ten pre/post items used to evaluate the TIC training course, which encompassed the dependent variables in this study. There were 506 surveys with complete responses to these five pre/post questions, before excluding for profession type ($N = 506$). For instance, well-informed train-the-trainer attendees were not included, as including them would have skewed the data. Others like LPN students or homeless-serving professionals were assumed to not be working with juveniles or clients yet or at all, therefore they were excluded. The first training presented in 2015 was quite different from the training model eventually developed and carried forth for the remainder of the time, so participants from that initial training were also excluded.

Table 2 shows the majority of participants were from northeastern counties in TN, with a handful from VA, NC, and other states. Most of the participants were female and Caucasian, with just a quarter identifying as African American, Hispanic/Latino, multi-

racial, or other races. Over 50% of participants were ages 35 or under, with a mode age of 22. Ages ranged from 17 to 85 years old, with a mean age of 37.67 and a standard deviation of 14.509. The largest percentage of *identified* professionals were staff from the Boys & Girls Club; however, the largest percentage of all professionals were unidentified at the time of this analysis and fell into the “other” category. Other known professions were DCS workers, school resource officers, and nurse managers.

Table 2

Descriptive Statistics of Sample Data

Variable	Frequency	Percent
<i>State</i>		
Tennessee	212	75.4
Virginia	9	3.2
North Carolina	19	6.8
Other	6	2.1
Missing	35	12.5
<i>Gender</i>		
Male	55	19.6
Female	193	68.7
Missing	33	11.7
<i>Race</i>		
African American/Black	24	8.5
Hispanic/Latino	3	1.1
Multiracial	2	.7
White/Caucasian	208	74.0
Other	8	2.8
Missing	36	12.8
<i>Position</i>		
Boys & Girls Club Staff	68	24.2
Nurse managers	20	7.1
DCS	7	2.5
School Resource Officers	8	2.8
Other	178	63.3

Bivariate Statistics

Appendix B shows the percentages for each pre and post-survey response, and Table 3 shows the increase in mean for each variable. Overall, ratings on all five questions increased positively from pre-survey to post-survey. For understanding the impact of trauma on the clients served and on self, the mean increased from pre- to post-survey by 1.53 for client impact and 1.34 for self-impact. There seemed to be less of an overall knowledge of TIC principles before training with a mean of 2.43; however, that almost doubled for post-survey responses, with a mean of 4.41. Notice for pre-survey questions 1-3, ratings included “poor” and “fair” range; but post-survey results removed these lower-scaled ratings entirely. The mean increased by 1.72 from pre- to post-survey for trainees’ perceived ability to implement TIC principles. Less than a quarter felt “very good” or “excellent” about knowledge of strategies to prevent seclusion, restraint, or coercive interventions before training; but with a 1.49 increase in mean, 75.8% scored in these two highest ratings after training. Collectively, 94% of trainees rated the training overall as “very good” or “excellent.”

A paired sample *t*-test was conducted to compare pre-survey to post-survey responses for each of the five DVs that measured participants’ perceived knowledge and understanding of various applicable information regarding TIC in relation to their professions. As Table 3 conveys, there was a significant difference found between each pre- and posts-survey for all five variables being measured.

Table 3

Paired Sample t-test Results for the Five Pre/Post Survey Questions

		Paired Sample Tests			
		Mean	Std. Deviation	<i>t</i>	Sig. (2-tailed)
Pair 1	Prior to Training: My understanding of the impact of trauma on the people I serve - After Training: My understanding of the impact of trauma on the people I serve	-1.527	.986	-25.963	.000
Pair 2	Prior to Training: My understanding of the impact of trauma on me - After Training: My understanding of the impact of trauma on me	-1.342	1.104	-20.373	.000
Pair 3	Prior to Training: My knowledge of the principles of trauma-informed care - After Training: My knowledge of the principles of trauma-informed care	-1.986	1.165	-28.576	.000
Pair 4	Prior to Training: My ability to implement the principles of trauma-informed care - After Training: My ability to implement the principles of trauma-informed care	-1.719	1.129	-25.525	.000
Pair 5	Prior to Training: My knowledge of strategies to prevent the use of seclusion, restraint, and coercive interventions - After Training: My knowledge of strategies to prevent the use of seclusion, restraint, and coercive interventions	-1.488	1.216	-20.502	.000

Indeed, all five tests produced statistically significant alphas well below the standard social sciences threshold of .05 (all five tests produced $p \leq .000$). Therefore, all five hypotheses in this thesis are accepted and the null hypotheses are all rejected. The significant increase in mean shown for each test suggests this particular TIC training significantly increased participants' perceived understanding of the impact of trauma on themselves and their clients, the knowledge of TIC principles and how to implement them into practice, and knowledge of non-traumatizing intervention techniques to prevent further trauma to clients. Collectively, overall self-efficacy was increased by attending this TIC training among juvenile-serving professionals.

CHAPTER V: DISCUSSION

Summary of Findings

This thesis was designed to determine how TIC training effected professionals' own perceived efficacy in working with the juvenile justice population, as research has shown this to be an important consideration in successfully implementing changes to standards, practice, and policy. Results supported all hypotheses in that the TIC training used in this thesis study significantly increased professionals understanding of the impact of trauma on their own lives as well as the clients they serve. Significant increase in knowledge of the principles of TIC and confidence in the ability to implement these into practice was observed among participants. The final variable measured also showed a significant increase in knowledge of non-traumatic intervention techniques. These five variables measured together equate to a significantly higher level of self-efficacy for participants after attending the training. This essentially means that with the new or increased knowledge and comprehension of the effects of trauma and how to reduce, prevent, and address it, these professionals feel as if they can do a better job serving their clients.

Implications

In general, it is important to consider the attitudes and self-efficacy of professionals when they learn new information or change the framework through which they serve clients. It is essential for someone to feel like he/she has a positive impact in

order to persevere in any profession serving youth at risk or in contact with the juvenile justice system. Learning the “why” behind behavior is as important as learning the “how” to help youth alter their behavior for a better outcome. Confirmation that training on trauma-informed practices can help professionals feel as if they can do a better job reaching people also confirms the need for continued growth in knowledge mobilization of this topic. This thesis topic is timely, as TN just passed an amendment to the school discipline law, requiring all schools to adopt a trauma-informed discipline policy, requiring among other things, policies to “balance accountability with an understanding of traumatic behavior” (Chapter 421, Tennessee Public Acts, 2019). This subject matter will only continue to increase and spread across many sectors of social service throughout the coming years, and professionals in this field can anticipate this paradigm shift to reach their work if it has not already. Are our attitudes primed and ready to receive this trauma-informed approach? When we believe in ourselves to be capable of positively impacting lives, we are more willing to keep at it and further refine our skills and knowledge of better ways to help those we serve.

The National Institute of Corrections (2015) provided an extensive and exemplary summary of trauma and TIC relating to the juvenile justice system, as well as resources for guidance, assessment tools, treatment interventions, and training. This document mentioned an interesting consideration regarding awareness that bringing up trauma history of juveniles can possibly lead to a risk of self-incrimination and harsher punishment from the system. It cautioned the need for regulations preventing this

unintended effect and suggested a reminder that trauma history should instead be used for effective referrals of appropriate services rather than punitive measures. In general, this source echoed Flatow et al. (2015) in suggestions of how to implement a system-wide trauma-informed approach: through knowledge and understanding of SAMHSA's model of key TIC elements covered in earlier chapters, as well as developing a safety plan, de-escalation strategies, and responses to and attempts to prevent vicarious trauma.

Limitations

The purpose of this thesis was to determine whether TIC training significantly improved the self-efficacy of professionals who serve juvenile- justice involved youth. Considering the source of the data used was secondary and this training survey was not specifically designed to evaluate self-efficacy changes before and after the training, the data could have possibly been more targeted to this purpose if it had been solely designed as such. Also not all of the data gathered from every training to date had been coded or entered by the time this analysis was conducted. For instance, originally it was planned to include a sixth question from one of the survey variations used that included pre- and post-scaled questioning about the "understanding about the need for self-care and prevention of burn-out or secondary trauma." However, these surveys containing this question were unavailable by the time of this data analysis. This question certainly strengthens the matter of overall self-efficacy, as proper self-care is essential to surviving the difficult culture and tasks associated with serving justice-involved youth.

Interestingly, there are several different variations of the survey tool intended to be used with a diverse population of attendees; therefore, there are some questions that are on some surveys but not on others. There are also other types of questions on the survey that are not limited to pre/post comparisons, like the qualitative sections allowing participants to report descriptions of TIC implementation plans or attempts. The originators of this data collection tool plan to collect qualitative data in the future regarding this and other information gathered; which shows the flexibility and expansive design of this tool. Some of the qualitative responses could be useful to strengthening the results of feelings of self-efficacy based on their plans for and implementation of TIC knowledge learned after the trainings.

State efforts in TN around increasing knowledge of ACEs science, impacts of trauma on children, and ways to address these issues with trauma-informed approaches have been widely disseminated for several years now. Generalizability of the results in this thesis should be taken into consideration to see if similar significant increases in self-efficacy can be found among people trained in other parts of the country other than the heavily TIC educated regions of eastern TN. Also, it should be tested to see if results are limited to this specific type of TIC training, or if other variations of TIC trainings create similar increases in professional self-efficacy. Finally, it would be interesting to see a more detailed breakdown of the participants included in “other” for profession. There is plans for those to be coded out more specifically, but it was not yet done in time for this

analysis. Comparisons among different occupations among the youth-serving population would be interesting to examine.

Considerations for Future Research

As much of the existing research and literature around TIC already affirms, there is still a need to clarify the key elements of systematic trauma-informed approaches and how they may differ and/or cross over various child-serving systems. This thesis has highlighted major definitional differences and strategies for TIC, which in itself confirms the need for more refinement and exploration. Qualitative studies on those served by a trauma-informed approach and those professionals that use TIC could also be useful to refining and justifying this paradigm shift. Implementation and sustainability is still a much-needed area of research in this field as well. Teachers, direct-service providers, and juvenile justice staff alike are certainly attuned and weary of capricious policy and procedural changes. Therefore, assessing attitudes throughout implementation with a tool such as the ARTIC (Baker et al., 2016) that was discussed in previous chapters would be a good way to continue thorough research into TIC implementation. Attempts to strengthen the self-efficacy of professionals will always edify the overall workplace culture and give more positive experiences to both employees and their clients.

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APPENDICES

APPENDIX A

Trauma Informed Care Training Evaluation and Survey

Thank you for attending our Trauma Informed Care Training. Below is a short survey we are asking that you complete. This information will help us determine the effectiveness of the training and will guide us in the next steps as we develop a strategic plan to create a Trauma Informed System of Care in our community. Thank you so much for your participation in this project!

Event: _____ Date: _____

Please rate the statements below using the following scale from 1 to 5. Some related directly to this training, and others relate to Trauma-Informed Care more generally. Circle your response.

1 = Poor 2 = Fair 3 = Good 4 = Very Good 5 = Excellent NA

	Prior to Training	After Training
My understanding of the impact of trauma on the people I serve (eval_1)	1 2 3 4 5 NA	1 2 3 4 5 NA
My understanding of the impact of trauma on me (eval_2)	1 2 3 4 5 NA	1 2 3 4 5 NA
My knowledge of the principles of trauma-informed care (eval_3)	1 2 3 4 5 NA	1 2 3 4 5 NA
My ability to implement the principles of trauma-informed care (eval_4)	1 2 3 4 5 NA	1 2 3 4 5 NA
My knowledge of strategies to prevent the use of seclusion, restraint, and coercive interventions (eval_5)	1 2 3 4 5 NA	1 2 3 4 5 NA
My understanding about the need for self-care and prevention of burnout or secondary trauma (eval_5.2)	1 2 3 4 5 NA	1 2 3 4 5 NA
My overall experience attending the training (eval_6)		1 2 3 4 5 NA

As we move forward to create a system of Trauma Informed Care in our community would you like to participate in any of the following ways?

Be informed of training opportunities (partic_01)	<input type="checkbox"/> Yes(3) <input type="checkbox"/> Probably(2) <input type="checkbox"/> Probably Not(1) <input type="checkbox"/> No(0)
Serve on an implementation team, task force, or coalition (partic_02)	<input type="checkbox"/> Yes(3) <input type="checkbox"/> Probably(2) <input type="checkbox"/> Probably Not(1) <input type="checkbox"/> No(0)
Hear success stories (partic_03)	<input type="checkbox"/> Yes(3) <input type="checkbox"/> Probably(2) <input type="checkbox"/> Probably Not(1) <input type="checkbox"/> No(0)
Request that your place of employment be a demonstration site (implement and assess TIC principles) (partic_04)	<input type="checkbox"/> Yes(3) <input type="checkbox"/> Probably(2) <input type="checkbox"/> Probably Not(1) <input type="checkbox"/> No(0)
Distribute literature to your clients or students (partic_05)	<input type="checkbox"/> Yes(3) <input type="checkbox"/> Probably(2) <input type="checkbox"/> Probably Not(1) <input type="checkbox"/> No(0)
Receive progress updates (partic_06)	<input type="checkbox"/> Yes(3) <input type="checkbox"/> Probably(2) <input type="checkbox"/> Probably Not(1) <input type="checkbox"/> No(0)

Please tell us a bit about your work with clients

My clients are routinely assessed for trauma history (myjob_01)	<input type="checkbox"/> Usually(3) <input type="checkbox"/> Sometimes (2) <input type="checkbox"/> Rarely(1) <input type="checkbox"/> Never(0)
In the future my clients will be routinely assessed for trauma history (myjob_02)	<input type="checkbox"/> Yes(3) <input type="checkbox"/> Probably(2) <input type="checkbox"/> Probably Not(1) <input type="checkbox"/> No(0)
Most of my clients have significant histories of trauma (myjob_03)	<input type="checkbox"/> Yes(3) <input type="checkbox"/> No(2) <input type="checkbox"/> Don't Know(1)
Having an understanding of the effects of trauma in someone's life will help me in my work as a professional (myjob_04)	<input type="checkbox"/> Yes(3) <input type="checkbox"/> Probably(2) <input type="checkbox"/> Probably Not(1) <input type="checkbox"/> No(0)

Training 3/5/18

Trauma Informed Care Training Evaluation and Survey

What is something that you learned in this training that you plan to implement? Please tell us how you would like to implement it and how soon/often you would like to implement it.

Trauma-Informed Care Understanding

The following questions will sound a lot like test questions. By asking these, we will know how much people learned from our training and how we can improve. Do the best you can and don't feel bad if you don't know the answer. We know it's new to you and you may not have been taught some of the material yet.

Which of the following is a good definition of empathy? (BSBUnd1)

- Feeling sorry for someone when something bad happens
- Putting yourself in someone else's shoes, feeling their feelings

Three types of stress are included when speaking of Trauma-informed Care and ACE science. Which of these is the most damaging of these types of stress? (BSBUnd2)

- Toxic stress
- Unhealthy stress

Which one of these statements is true about the Adverse Childhood Experiences (ACEs) study? (BSBUnd3)

- The people studied were high risk people in poverty
- They measured things that happened before the person was 18 years old

When children experience ongoing stress and have no one to comfort or calm them, they are less able to learn well. Why does this occur? (BSBUnd4)

- It reduces the number and strength of connections in the children's brains so that later learning potential is reduced
- It changes the children's emotions, which distracts them from learning, but does not change their brains

Trauma Informed Care Training Evaluation and Survey

A parent or teacher responds to a child's questions repeatedly. Each time the child asks a question, the adult responds. Sometimes the adult answers. Sometimes the adult responds with other useful information. What do brain scientists (and trauma-informed care trainers) call this? (ASBUnd5)

- Tutoring
- Serve and return**

What is something simple we can teach children to help them learn to calm themselves or seek comfort from someone when they are upset? (ASBUnd6)

- Upstairs brain/downstairs brain using hand motions**
- Good thoughts/good words/good actions

Which of these is central to becoming a trauma-informed organization (check all that apply)? (ASBUnd7)

- Establishing trust among staff, between staff and those served by the organization**
- Ensuring everyone knows to obey the person in charge
- Actively trying to prevent anything that would re-traumatize anyone**
- Treating everyone equally so that no favoritism is shown
- Ensuring that staff and those served by the organization feel safe**
- Encouraging those served by the organization to voice their ideas and feelings then listening to them**

We would like to follow up with you to see if you have implemented this. How can we best contact you?

Name: _____

Email: _____ Phone: _____

General Information. This will help us get to know you better.

1. What is your current position that brings you to this training? _____
2. State in which you work in this position _____
3. County in which you work in this position _____
4. Age _____
5. Gender _____
6. Race _____

Thank you for attending this training and providing us with feedback.

APPENDIX B

Percentages of Survey Responses for each Pre and Post Survey Question

Survey Item	Poor	Fair	Good	Very Good	Excellent	NA
Prior: My understanding of the impact of trauma on the people I serve	3.6	24.2	40.2	23.5	7.5	1.1
After: My understanding of the impact of trauma on the people I serve	0	0	1.4	40.6	58.0	0
Prior: My understanding of the impact of trauma on me	6.4	19.6	35.6	27.8	6.8	3.9
After: My understanding of the impact of trauma on me	0	0	6.4	39.9	50.5	3.2
Prior: My knowledge of the principles of trauma-informed care	22.4	32.0	24.2	16.0	3.9	1.4
After: My knowledge of the principles of trauma-informed care	0	0	7.1	44.5	48.4	0
Prior: My ability to implement the principles of trauma-informed care	20.6	27.8	29.5	15.7	4.3	2.1
After: My ability to implement the principles of trauma-informed care	.4	.4	13.2	47.0	38.4	.7
Prior: My knowledge of strategies to prevent the use of seclusion, restraint, and coercive interventions	20.3	26.3	25.3	16.0	6.4	5.7
After: My knowledge of strategies to prevent the use of seclusion, restraint, and coercive interventions	.4	3.9	14.6	37.4	38.4	5.3