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A TRAUMA-INFORMED SCHOOL-BASED MENTAL HEALTH COUNSELING INTERVENTION TO PROMOTE THE ACADEMIC AND SOCIAL-EMOTIONAL FUNCTIONALITY OF CHILDREN LIVING IN POVERTY

by

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A dissertation submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy in Counselor Education and Supervision,
in the Department of Counselor Education and School Psychology
in the College of Community Innovation and Education
at the University of Central Florida
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ABSTRACT

The purpose of this study was to investigate the effectiveness of a trauma-informed school-based mental health counseling intervention (TI-SBMHCI) on students enrolled in three Title I elementary schools. This study aimed to examine the impact of a TI-SBMHCI on participants' social-emotional functionality, trauma symptomology, and academic behavior. Counselors-in-training provided a 10-week TI-SBMHCI based off of Bath's (2008) *The three Pillars of Trauma-informed Care* and data was collected at pretest (first session), mid (fifth session), and posttest (tenth session). In addition, this investigation examined if participants showed greater improvement in academic behavior in comparison to students who did not receive a SBMHCI through the creation of matched sample control group.

Results indicated that the participants' trauma-symptomology, social-emotional functionality, and academic behaviors improved over time. Specifically, results of trauma-symptomology per child report exhibited significant decrease in re-experiencing scores (η^2 = .088), arousal scores (η^2 = .086), and total trauma symptomology scores (η^2 = .08). Further, results of trauma-symptomology per parent report exhibited significant decrease in re-experiencing scores (η^2 = .251), avoidance scores (η^2 = .180), negative thoughts and feelings scores (η^2 = .315), arousal scores (η^2 = .192), and total trauma symptomology (η^2 = .369). In regard to social-emotional functionality, parents reported significant decreased in internalizing (η^2 = .236), externalizing (η^2 = .160), and total problem behavior scores (η^2 = .211). Similarly, teachers reported significant decrease in the participants' total problem behavior scores (η^2 = .090). Further, the students who received the 10-week intervention showed a significant decrease in their office discipline referrals (η^2 = .094). When a matched sample control group was

implemented, there was a between-subject effect among the treatment and control group concerning office discipline referrals (p = .042; partial η^2 = .052) with the treatment group exhibiting greater decrease in office discipline referrals.

Implications of the findings include: (a) support for the use of a TI-SBMHCI for children living in low-income communities; (b) evidence that a TI-SBMHCI promotes elementary school students' social emotional functionality, decreases their trauma-symptomology, and improves their academic behavior; and (c) reinforces the importance of trauma-informed counseling within an effective school-based mental health counseling program.

To my loving parents

Thank you for giving me the strength, support, and motivation to chase my dreams.

I do not have the words to adequately describe my appreciation

for all that you have provided me, though I hope to show you in years to come.

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ACRONYMS AND ABBREVIATIONS

ACA	American Counseling Association
ANOVA	Analysis of Variance
APA	American Psychological Association
CBCL	Child Behavioral Checklist
CCS-R	Counseling Competency Scale-Revised
PSM	Propensity Score Matching
PTSD	Post-Traumatic Stress Disorder
MANOVA	Multivariate Analysis of Variance
RI	UCLA Post-traumatic Stress Disorder Reaction Index for the DSM-5
RM-MANOVA	Repeated Measures Multivariate Analysis of Variance
SBMHCI	School-based mental health counseling intervention
TI-SBMHCI	Trauma-informed school-based mental health counseling intervention
TRF	Teacher Report Form

CHAPTER 1
INTRODUCTION TO THE STUDY

Introduction

One in five elementary aged children suffer from a mental health disorder and 80% of mental health disorders begin in childhood (National Institute of Mental Health [NIH], 2016). Furthermore, up to 75% of these children do not receive mental health services (Capp, 2015). According to the 2014 US Surgeon General's report on children's mental health, 20% of children need active mental health interventions, 11% have significant functional impairment, and 5% have extreme functional impairment (American Academy of Pediatrics' Committee on School Health, 2014). Additionally, 60% to 70% of children experience at least one traumatic event by the age of 17 (Briggs-Gowan et al., 2012). Children in vulnerable populations, including low socioeconomic status (SES), frequently experience multiple traumatic events throughout their childhood; such as abuse, neglect, and secondary adversities that derive from distress, including difficulties in academics (Osofsky, Kronenberg, Bocknek, & Hanse, 2015). Further, according to Overstreet and Mathews (2011), the rates for ethnic minority youth in the United States who experience abuse, neglect and/or trauma have been significantly higher compared to ethnic majority children, furthering their risk to be diagnosed with posttraumatic stress disorder (PTSD). Specifically, ethnic minority children (i.e., Black/African American, Hispanic) living in impoverished environments have been estimated to be 26.5 times more likely to experience a violent trauma, maltreatment or abuse, as compared to their majority peers within the same environment (Overstreet & Mathews, 2011).

Due to the rapid emotional and physiological development of children, exposure to a traumatic event and childhood maltreatment have serious psychological and academic

consequences (Osofsky et al., 2015). Children's untreated PTSD symptoms are associated with negative outcomes such as aggression, anxiety, criminal activity, depression, and substance abuse (Kerig, Ward, Vanderzee & Moeddel, 2009). Therapeutic interventions designed to assist children's traumatic symptomology and address behavioral and emotional issues are significant in mitigating possible future delinquent behavior that may lead to incarceration (Bruce & Waelde, 2008).

Unfortunately, elementary school students from families of low SES levels experience high rates of mental health issues such as exposure to traumatic events and often do not receive treatment due to barriers in obtaining appropriate mental health services, leading to symptomology persisting into adulthood (Osfosky et al., 2015; Solomon et al., 2016; U.S. Department of Health and Human Services, 2001). Possible barriers to children living at low SES levels receiving mental health services include: (a) limited transportation, (b) lack of financial resources to pay for services, (c) stigma associated with mental health and receiving psychological services, and (d) insufficient availability of services (Bear et al., 2014; Gamble & Lambros, 2014; Solomon et al., 2016).

Elementary school students living in low SES communities may utilize school-based mental health counseling interventions (SBMHCIs) over alternative community or professional options, as SBMHCIs tend to be more accessible to these students (located in their school), and the services are often free of charge (Powers, Edwards, Blackman, & Wegmann, 2013). Consequently, this researcher found no published studies that examined the efficacy of a individual clinical trauma-informed school-based mental health counseling intervention (TI-SBMHCI) to address the social, emotional and trauma symptomology in elementary school

students living in low-income communities. For this study, the researcher examined a SBMHCI because it mitigates barriers to children living in low-income communities in receiving the trauma-informed mental health services they may need after experiencing a traumatic event. Children from low income homes who are being exposed to traumatic events is a public health concern; however, a common barrier to receiving mental health services is access to these services (Hodgkinson, Godoy, Beers, & Lewin, 2017). School-based services can be more accessible in addressing the specific needs of youth exposed to trauma. Thus, due to the high rates of trauma in youth living in low-income homes, and barriers in receiving mental health services, a TI-SBMHCI appears to be well suited for the needs of the target population of children enrolled in Title I elementary schools (Overstreet & Mathews, 2011).

Statement of the Problem

Elementary school students from low SES families experience high rates of mental health issues, often persisting into adulthood because of barriers in receiving appropriate services (Solomon et al., 2016; U.S. Department of Health and Human Services, 2001). Specifically, children living in low SES communities are at an increased risk of experiencing a traumatic event (Osofsky et al., 2011; Overstreet & Mathews, 2011). SBMHCIs aid in mitigating barriers to children in low-income communities receiving mental health services they may need (Powers et al., 2011). SBMHCIs provided by mental health professionals increase students' access to psychological services; however, these services are more likely to be offered in middle and high schools (Bear, Finer, Guo, & Lau, 2014).

SBMHCIs are effective in helping youth and families from high need communities in promoting their emotional, social, and academic achievement (Farahmand, Grant, Polo, & Duffy,

2011). However, researchers have emphasized limitations within SBMHCI research, as studies have (a) primarily been facilitated by teachers or school staff involving manualized psychoeducation programs as opposed to clinical interventions, (b) had small sample sizes, (c) had no had a control group, and (c) largely taken place in high school settings (Farahmand et al., 2011). Thus, the primary purpose of this research project was to examine the effectiveness of a 10-week TI-SBMHCI on the trauma-symptomology, academic behavior, and social-emotional functionality of elementary school students who have experienced a traumatic event in multiple Title I elementary schools.

Significance of the Study

In this study, the researcher attempted to address the gaps within the existing limitations of SBMHCI literature; including lack of control group, and appropriate clinical intervention provided by mental health professions to elementary school children. Based on these limitations, this study was the first to implement a SBMHCI that has a developmentally appropriate clinical focus (trauma-informed treatment) with a control group. This study was significant, as the "School Safety Act (2017-2018)" at the national and state level highlight the importance of increasing mental health services in schools. This study was also significant in that it was conducted to explore the effectiveness of a counseling intervention, contributing to the need of evidence-based practice research within the fields of counseling and counselor education (Ray et al., 2011).

Trauma Theory and Children

Since the 1980s, researchers and mental health professionals have focused efforts on understanding exposure to violence and psychological impacts (Hallett, Westland, & Mo, 2018). Accordingly, over time the definition of psychological trauma and diagnostic criteria for PTSD has been refined (American Psychiatric Association, 2013). Children experience trauma when they fear for their lives or for the lives of those they love (Dalenberg et al., 2012). Ultimately, a traumatic event affects the entire child and the way he or she thinks, learns, feels about self and others, and makes sense of the world (Dalenberg et al., 2012).

Following a traumatic event, children may exhibit a variety of symptoms, such as wetting the bed, nightmares, and aggressive behaviors, based on their developmental level (Bath, 2008). Due to the rapid emotional and physiological development of children, exposure to trauma has serious social, emotional, and academic consequences (Osofsky et al., 2015). Children's untreated trauma symptoms are associated with negative outcomes during their adolescence that may continue into adulthood such as criminal activity, mental health issues, and substance abuse (Kerig et al., 2009). Early interventions designed to assist children's traumatic symptomology are significant in mitigating possible delinquent behavior, substance abuse, and mental health disorders (Bruce & Waelde, 2008; Osfosky et al., 2015).

Three Pillars of Trauma-informed Counseling

Bath (2008) developed his three pillars of trauma-informed care based on the increased awareness of the impact of trauma on children and focus of trauma-related treatment. There is debate about the critical factors that go into trauma-informed care for children; however, Bath identified three common elements. These three common elements of trauma-informed care create

three pillars: (a) safety, (b) connections, and (c) managing emotions. When therapists work with children who have experienced a traumatic event, it is important to create safety within the relationship. Once children feel safe with their therapists, they are able to reestablish trust and form healthy attachments (Snyder, Shapiro, & Treleaven, 2012). A foundation of safety creates the initial groundwork for the second pillar of connections (Bath, 2008). Positive relationships are important for children in promoting healthy development, healing, and growth (Snyder et al., 2012). Specifically, it is essential to establish a positive relationship with traumatized children due to the embedded lack of trust following a traumatic event (Asay & Lambert, 1999). The third pillar of trauma-informed care emphasizes teaching children self-regulation, emotion and impulse control, as the most significant consequence of early childhood trauma is the loss of ability to regulate emotions (Bath, 2008; Osfosky et al., 2015). Thus, self-regulation is important for traumatized children, as managing emotions is the most fundamental protective factor (Bath, 2008). In the final pillar, it is essential to teach children to learn more effective ways to manage their emotions and impulses. Thereby allowing them to develop self-regulation skills they may utilize throughout their lives as a buffer against future mental health and behavioral issues such as depression, dropping out of high school, and delinquent behavior (Alvord & Grados, 2005).

Operational Definition of Terms

The following operational definitions of terms used in this study are offered in order to better understand the population of interest, children who experienced a traumatic event enrolled in a Title I elementary schools. To deliver a context for the investigation that follows, language chosen was consistent with current terminology within the literature and the operational definition of each key term and construct.

Trauma. Trauma is an emotional response to a distressing life event involving direct threat of death, severe bodily harm, or psychological injury (American Psychological Association [APA], 2017). Traumatized children can exhibit a wide variety of symptoms, including those that are more difficult to observe such as revenge fantasies, withdrawal, and isolation and symptoms that are easier to observe such as acting out and aggression (Martin et al., 2017). Traumatic symptomology often differs based on children's age and developmental level (Martin et al., 2017). The most recognized term defining a trauma-related diagnosis is PTSD (APA, 2017); however, multiple developmental domains (e.g., attachment systems, affect regulation, and self-concept) can be affected (Bath, 2008; Cook et al., 2005).

Trauma-informed care. Trauma-informed care is a strengths-based framework that is responsive to the impact of trauma, emphasizing physical, psychological, and emotional safety for survivors to create opportunities to rebuild a sense of control and empowerment (US Department of Justice, 2014).

Trauma-informed treatment. Trauma-informed treatment reflects trauma within a comprehensive approach and organizes interventions based on trauma theory (Becker, Greenwald, & Mitchell, 2011; Greenwald, 2005). The purpose of trauma-informed treatment is to re-establish safety for clients, identify triggers associated with the traumatic event, develop healthy coping skills, and decrease trauma symptomology (Becker et al., 2010).

Title I Elementary Schools. According to the National Center for Education Statistics (2015), about 20% of elementary school-aged children live in poverty, and many of these children enroll in Title I schools (Tyler, 2016), which contain majority percentages of children from low-income families. Title I schools help ensure that all children have a fair and equal

opportunity to obtain a high-quality education (U.S. Department of Education, 2004), receiving additional funding to support students in high poverty communities that may experience academic challenges and mental health concerns due to multiple outside stressors (Anthony, 2016; Jacob, 2007; Perfect & Morris, 2011).

Methods

The following section presents the methods used to conduct the investigation. The presented methods include: (a) research questions, (b) research design, (c) population and sampling, (d) TI-SBMHCI, (e) data collection procedures, (f) instrumentation, and (g) data analysis.

Research Questions

The purpose of this study was to investigate the effectiveness of a 10-week TI-SBMHCI on the trauma-symptomology, academic behavior, and social-emotional functionality of students from multiple Title I elementary schools who have experienced a traumatic event. This investigation was conducted to examine if individuals would (a) score lower on three psychological measures over time per child, parent and teacher report; and (b) improve academic behavior following their participation of a 10-week TI-SBMHCI. In an effort to contribute to the knowledgebase in the fields of counseling and counselor education, the investigation sought to answer the following two research questions:

1. Do participants' behavior and emotional problem scores, academic behavior, and trauma symptomology change over time as a result of participating in a 10-week TI-SBMHCI, in Title I elementary schools via parent/guardian report scores as measured

by CBCL (Achenbach, 2001) and teacher report scores as measured by TRF (Achenbach, 1992); school-based data as measured by attendance, and discipline referrals, and trauma symptomology as measured by RI (Pynoos et al., 1998, 2017)?

2. What is the effect of a 10-week TI-SBMHCI in Title I schools on participants' academic behavior (as measured by attendance, and discipline referrals) as compared to students who did not receive a 10-week school-based counseling intervention using propensity score matching (PSM)?

Research Design

In this study, the researcher implemented a two-phase research design. Each phase answered one of the aforementioned research questions, including different sets of data collection at different points (Creswell, 2013). This study included data from the implementation of the TI-SBMHCI and collection of data from the fall 2018/spring 2019 academic terms. Once the intervention was completed, the researcher collected school-based data and created a matched sample control group based off of PSM. The researcher chose the two-phase design to obtain a larger sample size, include a control group, and answer the research questions.

Phase One

The first phase of the study implemented an interrupted time series design (pretest, mid, posttest) to answer the first research question. Interrupted time series designs measure the effect of the independent variable (time in TI-SBMHCI) on the dependent variables (behavior and emotional problem scores, academic behavior, and trauma symptomology) at multiple time points with no control group (Glass, 1980). An interrupted time series design encompasses more

time to examine patterns and provides further precise interpretation of the independent variable's effect on the dependent variables (Glass, 1980). Data to measure the dependent variables were collected pretest (1st session), mid (5th session), and posttest (following the 10th session), as suggested by Hair, Black, Babbin, Anderson, and Tatham (2006).

Phase Two

The second phase of the study used a quasi-experimental comparison group pretest-posttest research design with a matched sample control group, based on covariates to answer the second research question. The covariates to match the groups included participants' (a) free and reduced lunch status, (b) individual education plan (IEP) diagnosis, (c) age, (d) grade, (e) ethnicity/race, and (f) gender. The matched sample control group was created through propensity score matching (PSM; Rosenbaum & Rubin, 1983) from a convenience sample (Glass, 1980; Hair et al., 2006) to measure the impact of the independent variable (TI-SBMHCI) on the dependent variables of school data (attendance, discipline referrals). The non-equivalent groups included a treatment group (those who receive TI-SBMHCI) and a control group (those who did not receive a SBMHCI). The control group was created based on the period of the implementation of the TI-SBMHCI (1st session), and posttest (following the completion of the 10th session).

Population and Sampling

The target population for the investigation was comprised of students enrolled in three Title I elementary schools. Due to the unique features of the Title I elementary schools located in the Southeastern region of the United States, it was difficult to gain an accurate estimate of the

overall population of children living in low-income communities who had experienced a traumatic event nationwide in differing urban settings (Jacob, 2007). For the purpose of this study and based on access, the recruitment and intervention were narrowed to three Title I elementary schools in a large school district in a Southeastern state.

The researcher used statistical software G-power 3.1 to calculate an a priori sample size analysis based on previous effect sizes within existing literature (Peng, Long, & Abaci, 2012). The researcher calculated to assess an appropriate sample size for conducting a repeated-measures analysis of variance (RM-ANOVA) within-between interaction with two groups and two measurements, as this analysis required the largest sample size within the study. Based on the meta-analysis conducted by Farahmand and colleagues (2011) examining 33 community-based mental health and behavioral programs for low-income youth, the a priori analysis implemented a power of 80% and a mean effect size of .25. The G-power analysis identified that 16 cases would be the minimum sample size needed within each group. To account for attrition, the researcher aimed to recruit more than 25 participants within the treatment group (TI-SBMHCI) so as to match at least 25 participants in the control group created through PSM.

Data Collection Procedures

Phase One

The purpose of Phase One of the investigation was to examine if behavior and emotional problem scores, as measured by the Child Behavioral Checklist (CBCL) and the Teacher Report Form (TRF; Achenbach, 1992; Achenbach & Rescola, 2001), academic behavior (student attendance, and discipline referrals), and trauma symptomology as measured by RI (Pynoos et

al., 1998, 2017) changed over time as a result of participating in a 10-week TI-SBMHCI. Thus, the first phase of the study used an interrupted time series design of pretest, mid, and posttest. The interrupted time series design was used to measure the effect of the independent variable, time in treatment, on the dependent variables of (a) behavior and emotional problem scores, (b) academic behavior, and (c) trauma symptomology at multiple time points with no control group (Glass, 1980).

Recruitment

The researcher facilitated recruitment and parental-referral to the study. The researcher facilitated recruitment of the elementary school participants' through school personnel, including administrators, teachers, school psychologists, social workers, family liaisons, and school counselors. The researcher also recruited participants by attending parent and community events at the schools, providing recruitment materials to interested families. Additionally, parents or guardians were able to contact the researcher if they were interested in having a child receive services and participate in the research investigation. Parents/guardians and their children participated in a prescreening interview to provide details about the TI-SBMHCI prior to being instructed to complete initial paperwork, which consisted of Parent/Guardian Informed Consent for Research, Client Information, and Consent for Counseling Services forms.

Screening

The researcher screened guardians to ensure that the TI-SBMHCI was appropriate to meet the needs of each child. For instance, the researcher confirmed: (a) participants were active students in Southeastern School District; (b) the identified children were willing to participate in

the counseling services; (c) transportation could be provided to and from each scheduled session; (d) scheduled sessions would be attended on a regular basis (participants missing more than two sessions were discontinued from services); and (e) the child had experienced one traumatic experience, as measured by RI (Pynoos et al., 1998, 2017). If children met cutoff criteria of endorsing one traumatic event at baseline, they were eligible for trauma informed counseling services. If the potential clients did not meet criteria for trauma informed counseling (did not endorse one traumatic event via RI), they were provided with a SBMHCI without a trauma focus. The researcher administered the data collection packet at pre-intervention (1st session), mid-intervention (5th session), and post intervention (following the 10th session).

Trauma-informed School-based Mental Health Counseling Intervention

The researcher made efforts to ensure that participants presenting concerns were addressed by counselors with appropriate training in the trauma-informed treatment (Bath, 2008). Counselor education graduate students enrolled in a supervised practicum conducted all the counseling sessions for the participants. The counseling sessions took place during the academic school year, once a week after school hours. The counseling service intervention was tailored to address the individual participants' presenting concerns, while practicing under the three pillars of trauma-informed care (Bath, 2008).

Treatment Fidelity

Treatment fidelity is an important consideration in a quasi-experimental research design, as the counselors providing the services need to adhere to the specifications of the trauma-informed intervention alleviating threats to interval validity (Gall, Gall, & Borg, 2007). The

researcher made efforts to maximize treatment fidelity. Thus, the researcher trained the counselors on the three pillars of trauma informed care (Bath, 2008) prior to services and kept track of their trauma-informed counseling sessions in weekly progress notes. Additionally, the research team members served as external auditors in randomly observing counseling sessions to assess the congruence between the services and the intended TI-SBMHCI (Gall et al., 2007). Specifically, research team members filled out the TI-SBMHCI checklist at each phase of treatment and the Counseling Competency Scale-Revised (CCS-R; Lambie, Mullen, Swank, & Blount, 2018) to account for test, retest reliability, and to ensure counselors were staying true to the intervention. The research team included two doctoral students in the counselor education program, three faculty supervisors, and the associate dean of the college who serves as the lead supervisor of the partnership program. Further, all counselors completed a counseling children and adolescents graduate course and/or a graduate play therapy course, ensuring their competency in providing therapeutic services to children. Three trained and appropriately credentialed clinical supervisors supervised the counseling section at each school site. Finally, counselors completed the UCLA PTSD reaction index DSM-5 training prior to seeing clients to properly administer the UCLA Posttraumatic Stress Disorder Reaction Index (RI) to participants (Pynoos et al., 1998, 2017).

Phase Two

The second phase of this study used a quasi-experimental pretest-posttest research design to compare the treatment group (TI-SBMHCI) and a matched sample control group comprised of those who did not receive a SBMHCI intervention (Glass, 1980). The researcher created the matched sample control group through PSM (Rosenbaum & Rubin, 1983) using a convenience

sample, to measure the impact of the independent variable (TI-SBMHCI) on the dependent variables (attendance, discipline referrals) of school data (Glass, 1980; Hair et al., 2006).

Recruitment

The researcher created the matched sample control group using TI-SBMHCI treatment group matched covariates based on: (a) free and reduced lunch status, (b) IEP and/or 504 diagnosis, (c) age, (d) grade, (e) ethnicity/race, and (f) gender. The school district provided demographic data for children enrolled at each elementary school and the list of individuals screened through PSM, creating the finalized matched sample control group. PSM attempts to control for differences to make the groups receiving treatment and not-treatment more comparable (Rosenbaum & Rubin, 1983). In addition, PSM verifies that covariates are balanced across treatment and comparison groups in the matched or weighted sample. PSM is used to reduce selection bias by equating groups based on these covariates or characteristics of participants (Rosenbaum & Rubin, 1983). Thus, the goal during Phase Two was to approximate a random experiment to examine the effectiveness of the TI-SBMHCI (Glass, 1980).

Instrumentation

The Child Behavior Checklist (CBCL)

The CBCL (Achenbach & Rescola, 2001) for children ages 6 to 18 years of age was completed by parents or legal guardians before the first session, after the completion of the fifth session, and then again after the completion of the tenth session. The revised CBCL 6-18 (Achenbach & Rescorla, 2001) has been translated into approximately 70 languages or dialects (Al-Hendawi, Keller, & Cloninger, 2016). As such, the evidence of validity and reliability for

CBCL scores has been supported through its use in a variety of clinical and academic settings. The CBCL has been used in over 20 other societies of children from different cultural and ethnic backgrounds, including samples from Australia, Kosovo, Turkey, Taiwan, China, Germany, Norway, and the Netherlands (Kariuki, Aabubakar, Murray, Stein, & Newton, 2016).

Teacher Report Form (TRF)

Teachers completed the TRF (Achenbach, 1992) for children ages 6 to 18 years of age before the first session, after the completion of the fifth session, and then again after the completion of the tenth session. The TRF presents teachers' observations of student behavior and measures teachers' perceptions of a child's academic performance, adaptive functioning, and problem behavior. The problem behavior items measure three broadband scales and eight syndrome scales that are identical to those on the CBCL. Further, there is evidence of validity and reliability of the TRF scores with diverse populations of children and adolescents (Achenbach & Rescorla, 2000).

Both the CBCL and TRF (6-18) include items that survey eight behavioral and emotional problems for the preceding six months, including: (a) anxiety/depression, (b) withdrawal/depression, (c) somatic complaints, (d) social problems, (e) thought problems, (f) attention problems, (g) rule-breaking behavior, and (h) aggressive behavior. Answers to each question are given on a scale of 0 (not true), 1 (somewhat or sometimes true), or 2 (very true or often true). The participants' behavioral and emotional problems are determined by using the total, internalizing, and externalizing problem *T* scores; *T* scores ≥ 60 are in the clinical range (Achenbach & Rescola, 2001).

School-Based Academic Data

The school district provided data for the participants who completed the 10-week trauma-informed counseling program and students who formed the matched sample control group. The school-based academic data that the school district provided were (a) number of days the student attended school and (b) number of office discipline referrals. The academic data components consist of pre-intervention (the academic semester prior to counseling services) and post-intervention (the academic semester following counseling services).

The UCLA Posttraumatic Stress Disorder Reaction Index for the DSM-5 (RI)

The RI (Pynoos et al., 1998, 2017) consists of a child and parent version. The RI is used to assess exposure to trauma, addressing a variety of traumatic experiences a child may experience such as accidental trauma, physical abuse, and loss. Participants were eligible for trauma informed counseling services if they met the cutoff criteria of endorsing one of the twenty-three traumatic events (e.g., bullying, separation, and bereavement) included in the trauma history profile at baseline. The RI is a 20-item scale using a 5-point Likert response rating of parents' and children's reports of PTSD symptoms in accordance with the DSM-5. The RI measures changes in trauma symptomology experienced by participants. The RI contains four subscales that align with the DSM-5 PTSD categories, including the dissociative type. In addition, the RI provides a total composite symptomology score. The RI demonstrates convergent validity; the DSM-IV version correlates with the PTSD Module of the Schedule for Affective Disorders and Schizophrenia for School-Age Children ($r = 0.70$), and the Child and Adolescent Version of the Clinician-administered PTSD Scale ($r = 0.82$). A cut-off of 38 has a specificity of 0.87 in detecting PTSD (Rodriguez, Steinberg, Saltzman, & Pynoos, 2001a,

2001b). The RI scores have demonstrated evidence of internal consistency reliability across versions; several reports have found Cronbach's alpha to fall in the range of 0.90 (Roussos et al., 2005). Finally, the different versions of the RI test-retest reliability have ranged from good to excellent; Roussos and colleagues (2005) reported a test-retest reliability coefficient of $r = 0.84$ for the DSM-IV version.

Data Analysis

The researcher used the Statistical Package for Social Science (SPSS Version 24) to analyze the data. The dataset for this two-phased investigation included one independent variable (time) and multiple continuous dependent variables: (a) CBCL scores (Achenbach & Rescola, 2001); (b) TRF scores (Achenbach, 1992); (c) RI scores (Pynoos et al., 1998, 2017); and (d) academic data (school attendance and discipline referrals). Additional demographic variables were collected through a brief psychosocial form, The Counseling Psychosocial Intake Form—Elementary School Version (CPIF; Lambie, 2016). The additional demographic variables included participants' age, grade, gender, ethnicity/race, IEP/504 diagnosis, and free and reduced lunch status.

All analyses followed a screening for missing data, and underwent analyses to examine statistical assumptions, including (a) assessing normality, (b) sphericity among the dependent variables (i.e., CBCL scores, TRF scores, RI scores, discipline referrals, and attendance rates), (c) checking internal consistency using Cronbach alphas of each instrument, and (d) checking for outliers (Osborne, 2015). The researcher stored the completed data collection materials in a locked desk in a locked office, and all participants were given a research ID to which only the research team and counselors had access.

Data Analysis for Research Question 1

An interrupted single group time series design was implemented where data collection was collected at three time points including pre (prior to the 1st session), mid (following the 5th session), and post (following the 10th session). The purpose of Phase One was to examine change in (a) student-participants' behavior and emotional problem scores through parent report (CBCL) and teacher report (TRF), (b) trauma symptomology (RI parent and child report), and (c) school-based data (office discipline referrals and school attendance) after participating in a 10-week trauma-informed counseling intervention in their elementary schools (Glass, 1980).

For Behavioral and Emotional Problem Scores

A repeated-measures multivariate analysis of variance (RM-MANOVA) was utilized to assess changes in internalizing and externalizing behavior for TRF and CBCL scores over time, as the dependent variables of internalizing and externalizing problem scores are theorized to be related (Achenbach, 2009). In addition, the researcher used a repeated-measures analysis of variance (RM-ANOVA) to assess total problem composite scores and account for multicollinearity. The independent variable was time and the dependent variables was the TRF and CBCL, internalizing, externalizing and total problem scores.

For Trauma Symptomology

A RM-MANOVA was utilized to assess changes in subscale symptomology scores over time, including: (a) intrusion, (b) avoidance, (c) negative thoughts, and (d) trauma-related arousal. Further, data was analyzed using a RM-ANOVA to assess trauma symptomology over time as measured by the RI total scores (Pynoos et al., 1998, 2017). Specifically, the researcher

implemented two separate RM-ANOVA's to assess for RI total symptomology score per both parent and child report. The independent variable was time, and the dependent variable was the outcome trauma symptomology score.

For School-based Data

The researcher analyzed the data using two separate RM-ANOVAs to assess univariate changes. The RM-ANOVAs assessed changes in: (a) discipline referral rates, and (b) school attendance, over time following a 10-week TI-SBMHCI.

In Phase One of the study, RM-MANOVA's were implemented to identify within-subject multivariate effects across time for behavioral and emotional problem scores measured on the CBCL and TRF and a RM-ANOVA to account for multicollinearity for total problem scores. Furthermore, the researcher used a RM-ANOVA's to identify univariate within-subject effects across time on trauma symptomology and school-based data for individuals receiving TI-SBMHCI (Hair et al., 2006).

Data Analysis for Research Question 2

A matched sample control group was created through PSM based on covariates. Once a control group was formed, data collection was collected pre-intervention (during period of 1st session for experimental group) and post-intervention (following 10th session period of experimental group).

For School-based Data

The researcher analyzed the data using three separate RM-ANOVA's to assess univariate change in: (a) discipline referral rates, and (b) attendance. The researcher used RM-ANOVA's to identify with-in subject effects over time for the control groups, and between-subject effects over time between the control group and the TI-SBMHCI experimental group (Hair et al., 2006).

Ethical Considerations

The researcher took steps to ensure that the investigation was conducted in an ethical manner. She (a) obtained approval from the IRB (including all recruitment assessments); (b) provided a detailed counseling and research informed consent to families, including limits to confidentiality; (c) removed all identifying information from research packets and kept data collection materials in a locked cabinet behind a locked door; and (d) expressed to participants involved that this study was completely voluntary and participants had the right to withdraw from the study and receive an appropriate referral. Due to the involvement of a vulnerable group of children who experienced trauma in this study, there were ethical considerations specific to the population. Thus, supervisors did not permit counselors-in-training to practice outside of their competency and training involving trauma-informed care.

Potential Limitations of the Study

There were several limitations within this study. Specifically, the PSM procedure only controlled for observed variables; therefore, any hidden bias due to latent variables may have remained after matching. Another issue was that PSM requires large samples, with substantial overlap between treatment and control groups, which may not have been obtainable within this

sample. Furthermore, although results from ANOVA and MANOVA supported the intervention, they did not necessarily verify causation. In addition, the intervention was counseling that was tailored to the individual needs of the participants through a trauma-informed lens; thus, generalizability of the treatment was questionable (e.g., treatment fidelity). Lastly, the limited control in the counselors' backgrounds presented a potential limitation for the study.

Summary

This chapter introduced the constructs of interest, social-emotional functionality, academic behavior, and trauma symptomology. In addition, this chapter presented the rationale for the study, significance of the study, and operational definitions of terms used throughout the study. The researcher also reviewed aspects of the research methods including the (a) design, (b) research questions, (c) population, (d) sample, (e) recruitment procedures, (f) intervention, (g) instrumentation, and (h) data analysis. Finally, this chapter identified limitations of the study and ethical considerations.

CHAPTER 2
REVIEW OF THE LITERATURE

Introduction

The primary purpose of this study was to investigate the effect of a trauma-informed school-based mental health counseling intervention (TI-SBMHCI) on students' social emotional functionality, trauma symptomology, and academic behavior in three Title 1 elementary schools. In this chapter, the researcher reviews the literature relating to the following three theoretical constructs (a) trauma; (b) trauma-informed treatment; and (c) mental health counseling, specifically in a school-based setting. The following sections of the chapter provides an overview of these three constructs with specific focus on research pertaining to the population of interest, elementary school children living in low-income homes who have experienced a traumatic event.

Theories and Definitions of Trauma

Trauma Theory

Trauma theory emerged in the 1960s due to several societal issues, including violence against women; the identification of post-traumatic stress disorder (PTSD), resulting from veterans returning from the Vietnam War; and awareness of long-term mental health consequences from torture and genocide (Ford, Courtois, & Cloitre, 2009). Although an understanding of trauma emerged in the 1960s, it was not until the 1990s that the impact of trauma on children was recognized; including early antecedents in childhood, the impact on long-term social and professional functioning, and the role of trauma in the development of personality disorders (Herman, 1992). Terr (1990) was the first to complete a longitudinal study examining traumatized children to gain an understanding of how trauma presents within

children. Specifically, Terr noted, "Trauma occurs when a sudden, unexpected, overwhelming intense emotional blow or a series of blows assaults the child from the outside. Traumatic events are external, but they quickly become incorporated into the mind" (p. 8).

Bloom (1999) developed *Trauma Theory Abbreviated* which provided a framework to understand the impact of trauma on children. Specifically, Bloom postulated trauma may impact children in the following eight ways: (a) evolution and the fight-or-flight response, (b) learned helplessness, (c) loss of "volume control," (d) thinking and remembering under stress, (e) dissociation, (f) endorphins and stress, (g) trauma-bonding, (h) trauma-reenactment, (i) trauma and the body, and (j) victim to victimizer. The following section introduces the eight ways children may respond to trauma based on Bloom's theory and reviews strategies to intervene with traumatized children at each response.

Evolution and the Fight or Flight Response

Cannon (1915) was the first to identify the fight-or-flight response, and his theory posited that animals react to threats based on their sympathetic nervous system. Bloom (1999) observed that this response involved blood flow, tension, heart rate, and respiration, thereby preparing the animal to fight or flee. Humans' most basic protective mechanism is the fight-or-flight reaction as they protect themselves from outside threats (Cannon, 1915). Further, when the brain interprets a traumatic event, it triggers the stress hormone cortisol, initiating the fight-or-flight response (McCabe & Schneider, 2009). Thus, the brain changes with every new threatening experience that generates the fight-or-flight response (Bloom, 1999). Due to the brain development within children, exposure to several traumatic events changes the way a child responds to any threat, physically, cognitively and emotionally (Bloom, 1999). Specifically,

children's brains change by experiencing high levels of cortisol, resulting in sensitive reactions to minor threats (Bloom, 1999). Therefore, when therapists intervene with children who have experienced trauma, it is important for them to create a safe environment to help counteract long-term emotional and physiological effects of stress (Osfosky et al., 2015; Terr, 1990).

Learned Helplessness

In situations that are considered to be traumatic, a child may feel helpless, and helplessness goes against the human instinct of survival (Seligman, 1992). Additionally, children's neurochemistry is altered when experiencing trauma for an extended period, allowing humans to escape dangerous situations (Seligman, 1992). Thus, children experiencing trauma receive the message that nothing they do will affect the outcome and they may give up, increasing the risk of developing depression and suicidality in adolescence (Felitti, 1998). Repeated helplessness may result in learned helplessness, where a child becomes accustomed to trauma (Bloom, 1999). Therapeutic interventions with children who experience trauma should focus on making children feel empowered, serving as a protective factor if presented with future experiences where they may feel helpless (Bath, 2008).

Loss of "Volume Control"

When a child experiences a traumatic event accompanied with terror, the internal volume control system is impacted (Bloom, 1999). A volume control system is the control children have over their emotions based on the level of the threat presented (Bloom, 1999). For example, an infant has an all or nothing mentality within emotional regulation, (e.g., baby cries when hungry), based on the need for survival (van der Kolk, 1985). Thus, children, during brain

development, learn how to regulate emotions based on the significance of the stimulus (Janis, 1982). Children who experience trauma lose the capacity to regulate their emotions through their volume control and, instead, reduce to an all or nothing emotional mentality (Janis, 1982). The development of children in an all or nothing response results in their losing all control over their arousal state, even during nonthreatening situations. Therefore, traumatized children may present as irritable, aggressive, jumpy, impulsive, and anxious (Osfosky et al., 2015; van der Kolk, 1985).

Children exposed to repeated traumatic experiences have an overpowering internal arousal influencing their feelings of safety (van der Kolk, 1985). To regain self-control and a feeling of security, traumatized children self-soothe (van der Kolk, 1985). However, without proper coping skills, traumatized children frequently turn to unhealthy behaviors, such as aggression and violence, that may lead to substance abuse and risky behaviors in adolescence and adulthood (Osofsky et al., 2015). When working with traumatized children, therapists need to be cognizant that children's unhealthy behaviors may only be a strategy they use to self-regulate (Bloom, 1999). Thus, therapists working with traumatized children should assist them in developing healthy coping skills to self-regulate (Bath, 2008; Bloom, 1999).

Thinking and Remembering Under Stress

Stress is an unavoidable aspect of the human experience; however, the unique ways a child's mind and body react to the stressful experience may lead to negative outcomes (Terr, 1990). Children experiencing immense stress have impaired abilities to think rationally (Bloom, 1999). Consequently, when humans encounter danger, they are physiologically programmed to act (i.e., fight or flight response) as compared to taking time to process the situation (Alford,

Mahone, & Fielstein, 1988). A manner in which children process traumatic events affects the way they think under stress, leading to unhealthy thought patterns such as using anger to solve problems (Janis, 1982). When therapists design intervention strategies for children who experience trauma, they should work to reduce stress within the children's life, allowing the children to process situations in an effective manner (Bloom, 1999).

Stressful stimuli alter how children remember and process new and old memories (Janis, 1982). Specifically, trauma affects children's verbal and nonverbal based memory systems (van der Kolk & McFarlane, 1996). For example, children overcome with fear may have difficulty identifying words to describe their traumatic experience (LeDoux, 1996). The "emotional memory" takes over, using senses to make meaning of the experience, providing visual, auditory, olfactory, and kinesthetic images (LeDoux, 1996). The emotional memory (LeDoux, 1996) is more difficult to erase and contributes to children's intrusive re-experiencing of the traumatic memory through flashbacks (Bloom, 1999; van der Kolk & McFarlane, 1996). During a flashback, children may feel overwhelmed with the same emotions that were present during the time of the trauma (van Der Kolk & McFarlane, 1996). During a flashback overwhelming state, it is difficult for children to articulate their experience, and without words the trauma feels as if it is being experienced in the present (LeDoux, 1996). Thus, therapists intervening with children who experience trauma should facilitate the children in articulating their traumatic experience through expressions such as play, art, music, and bibliotherapy (Marrs, 1995) as a means to put the trauma in the past (Bloom, 2010; Schottelkorb, Doumas, & Garcia, 2012).

Dissociation

Dissociation is common in children who have experienced trauma and is "a disruption in the usually integrated functions of consciousness, memory, identity, or perception of the environment" (Bloom, 1999, p. 8). Although there are variations in dissociation (e.g., fainting), the most common dissociative behavior endorsed by children is becoming "emotionally numb" (Boom, 1999). According to Pennebaker (1997), children cut off all their emotions associated with their trauma and avoid circumstances that trigger their emotions, such as going to school. Further, children experiencing trauma do not have healthy coping skills, a sense of self, or a sense of self in relation to others (Bloom, 1999) as their sense of self becomes determined by the trauma, leading to feelings of worthlessness (Pennebaker, 1997). For many traumatized children, trauma becomes a norm, resulting in distorted concepts of healthy and normal (Terr, 1990). Therapeutic interventions strengthening children's emotional intelligence, or the ability to be aware, control and express their emotions, may help mitigate possible life-long adjustment problems (Bath, 2008; Goleman, 1995). Such problems may impact the mental health of children, lead to substance abuse in families, and result in delinquency (Bloom, 1999).

Endorphins and Stress

Endorphins are hormones that calm anxiety, improve mood, and decrease aggression; and they discharge in times of stress to provide pain relief (van der Kolk, 1985). According to van der Kolk (1985), children repeatedly exposed to high rates of chronic stress exhibit high rates of endorphin release. They may become accustomed to elevated endorphins levels during prolonged states of stress. For example, children may not be able to function in a calm environment and may create stress to achieve equilibrium through endorphins (Bloom, 1999). Consequently, as

noted by van der Kolk (1985), traumatized children may resort to behaviors that trigger the same endorphin release (e.g., self-harm, risk-taking behaviors, violence, binging and purging, and substance use). As a result, therapists working with children who experience trauma should work to create a safe environment, allowing the children to detox from their consistent stress and elevated levels of endorphins (Bath, 2008; van der Kolk, 1985). In addition, therapists should provide children experiencing trauma with psychoeducation on trauma and the effects of trauma on their bodies, as a means to normalize and validate their experience (Bloom, 1999).

Trauma Bonding

After a trauma has occurred, children may experience trauma bonding (Herman, 1992). Trauma bonding is an emotional attachment based on terror (Herman, 1992). For example, abused children may bond to their abuser, narrating unhealthy attachments and affecting interpersonal relationships throughout adolescence and adulthood (Herman, 1992; James, 1994). Trauma bonding results in children lacking skills in creating healthy relationships (James, 1994). Therapeutic interventions focusing on developing children's healthy secure attachments with adults and peers is imperative in mitigating possible future unhealthy relationships in adulthood (Herman, 1992; Bath, 2008).

Trauma Reenactment

Trauma reenactment is the notion that a traumatic history may repeat itself due to children not being able to cope with their experiences, leading to compulsive repetition (van der Kolk, 1985). Therapists should provide interventions to create a safe environment to counteract

these habits socialized through the trauma, to assist in healthy change of behavior, and prevent repetition to occur (Bloom, 1999; van der Kolk, 1985).

Victim to Victimizer

Individuals experiencing trauma may enter the role of victimizer (e.g., bullying) over time (Bloom, 1999). Traumatized children may experience feelings of helplessness and powerless; and in an attempt to reclaim their power, they may hurt others (Felitti, 1998). Specifically, taking on a victimizer role allows children to alleviate anxiety symptoms (Felitti, 1998). Children changing their role from victim to victimizer is more common in males due to societal stereotype of masculinity and not permitting males to be helpless (Felitti, 1998). Strength-based therapeutic approaches that promote instilling power within children may assist in preventing possible victimizer role change (Bath, 2008). Further, therapists should provide traumatized children with psychoeducation on trauma to normalize and validate the traumatic experience, especially male children socialized not to be victims (Bath, 2008).

Post-traumatic Stress Disorder

The most common representation of trauma is the diagnosis of PTSD (National Institute of Health [NIH], 2010). The *Diagnostic Statistical Manual* (DSM) did not include psychological trauma and the diagnosis of PTSD until 1980, when returning Vietnam War veterans presented with prolonged severe psychological symptoms (Ford, Courtois, & Cloitre, 2009). The initial PTSD diagnosis within the DSM-III criteria included immediate symptoms following combat experiences, rape, domestic violence, and child abuse (Herman, 1981). The DSM-III PTSD diagnosis consisted of five clusters of symptoms: (a) intrusive thoughts, (b) avoidance, (c)

hyperarousal, (d) hypervigilance, and (e) brief descriptors of anxiety and dysphoria (American Psychiatric Association [APA], 1980). Further, the initial diagnosis did not incorporate painful ordinary stressors that could be equally traumatic, such as divorce or chronic illness (Herman, 1981). Additionally, the initial diagnosis lacked a focus on early development (e.g., childhood sexual abuse or neglect) and the impacts on individuals into adulthood (Ford & Courtois, 2009). Finally, the initial diagnosis did not offer a comprehensive view of psychological stressors and daily functioning over all areas of an individual's life, including occupational functioning (Ford & Courtois, 2009).

Over time, the diagnosis of PTSD has evolved, and the current DSM-5 made changes in both conceptual and clinical implications (APA, 2013). Based on the prevalence of trauma, the DSM-5 created a new category, Trauma and Stressor-Related Disorders, in which the onset of every disorder was preceded by a traumatic event (Pai, Suris, & North, 2017). Further, the DSM-5 includes the presentation of symptoms based on the development of children, specifically, and descriptions of both PTSD symptoms for children six years and above and six years and younger (APA, 2013). Predominantly, the DSM-5 emphasized that PTSD is not just an anxiety disorder (primarily recognized by the DSM-III and DSM- IV); rather, it has been expanded to include the presentation of anhedonia (the lack of pleasure or joy) and dysphoric (the state of depression) symptomology (Pai et al., 2017).

The current PTSD diagnosis within the DSM-5 has eight criteria: (a) stressor, (b) intrusive recollection, (c) avoidance, (d) negative cognitions and mood, (e) alterations in arousal or reactivity, (f) duration, (g) functional significance, and (h) exclusion criterion (APA, 2013).

The following section introduces the PTSD criterion within the DSM-5; specifically, the following section includes PTSD symptomology for children.

Stressor (exposure) Criterion

The stressor criterion requires direct or indirect exposure to at least one traumatic event involving death or injury, or threat of death or injury to individuals or someone they love (APA, 2013). Indirect exposure can include (a) witnessing a violent or accidental traumatic event, (b) learning that a traumatic event occurred to a loved one, and (c) repeated exposure to details of trauma such as those experienced by first responders (APA, 2013). However, DSM-5 PTSD diagnostic criteria has not considered electronic media (television, movies, and pictures) as exposure (APA, 2013). The National Child Traumatic Stress Network (2005) described childhood trauma exposure as a perceived threat of harm that renders children feeling overwhelmed and fearful for their safety and the safety of those around them, including neglect, natural disasters, violence, death of a loved one, etc.

Intrusive Recollection Criterion

The intrusive recollection criterion requires one or more intrusion symptoms associated with the traumatic event to be present (APA, 2013). Specifically, individuals must meet one of the following intrusive symptoms: (a) recurrent, involuntary and distressing memories of the traumatic event; (b) recurrent distressing dreams; (b) flashbacks; (c) dissociative reactions (i.e., feels or acts as if the trauma is occurring); (d) intense psychological distress with (internal or external) cues that symbolize the trauma; and (e) physiological distress with (internal or external) cues that symbolize the trauma (APA, 2013). The DSM-5 specifies that for children older than

six years of age, repetitive and/or trauma reenactment play may occur as a way for them to express aspects of the traumatic event. Further, children may not know the content of their dreams but will wake up in immense fear (APA, 2013).

Avoidance Criterion

The avoidance criterion consists of behavioral strategies individuals use in an attempt to avoid stimuli associated with a traumatic event (APA, 2013). An individual must demonstrate avoidance in one of the following ways: (a) efforts to avoid distressing memories, thoughts, or feelings surrounding the traumatic event, and/or (b) avoiding external reminders of the traumatic event (i.e., people, places, activities) that may cause distress (APA, 2013).

Negative Cognition Criterion

The DMS-5 added the negative cognition criterion component of PTSD due to depressive symptoms being common among traumatized individuals (Pai et al., 2017). Thus, negative alteration in cognition resembles the diagnosis of depression, resulting in mood or cognition worsening following a traumatic event (APA, 2013). The negative cognition category requires individuals to have two or more of the following symptoms: (a) inability to remember important aspects of the traumatic event, (b) persistent and distorted negative beliefs about oneself (i.e., 'I am worthless), (c) distorted cognitions about the cause or consequences of the trauma (i.e., self-blame), (d) persistent negative emotional state (i.e., anger, fear, guilt), (e) feelings of detachment from others, and (f) persistent inability to feel positive emotions such as happiness or love (APA, 2013).

Increased Arousal Criterion

The alterations in arousal criterion most closely resemble symptoms presented in panic and generalized anxiety disorders (Pai et al., 2017). Within the PTSD diagnosis, individuals must endorse two or more of the following symptoms: (a) irritable behavior, (b) reckless or self-destructive behavior, (c) hypervigilance, (d) exaggerated startle response, (e) problems concentrating, and (f) sleep disturbances (APA, 2013).

Duration, Functionality and Exclusion

The duration criterion specifies that symptoms must persist for at least one month following exposure to a traumatic event prior to a diagnosis of PTSD (APA, 2013). Further, the functionality criterion specifies an individual must experience significant social, occupational, or other distress because of PTSD symptoms. Conclusively, the exclusion criterion specifies that the symptoms must not be due to medication, substance use, or other physical illnesses (APA, 2013).

Dissociative Symptoms and Delayed Expression

The DSM-5 added two specifications within the PTSD diagnosis: dissociative symptoms and delayed expression. The dissociative symptoms specification includes depersonalization, feeling detached from one's body; or derealization, feeling of unreality of surroundings, as if their life was a dream (APA, 2013). The second specification, delayed expression, includes the full notes diagnostic criteria not met until six months following the traumatic event (APA, 2013).

Trauma and Children

Over the past decade, there has been an increased awareness of the prevalence of trauma and the impact on school-aged children (Santiago et al., 2018). Further, Overstreet and Mathews (2011) have categorized trauma occurring in childhood as a 'public health crisis,' as rates of trauma continue to increase in school-aged youth (p. 742). In 2008, the U.S. Department of Health and Human Services reported roughly 3.5 million cases of child abuse or neglect. Also, the national estimate of children who received a child protective service investigation increased 9% from 2011-2015 (Department of Health and Human Services, 2015). According to Briggs-Gowan et al. (2010), approximately, 26% of school-aged children will experience or witness a traumatic event before the age of four, and 60% to 70% of children will be exposed to at least one traumatic event by the age of 17. Additionally, in 2015, 47.6% of children ages six to nine reportedly had experienced a physical assault, 13.8% had experienced maltreatment, 10.7% had witnessed violence within their community, and 5.8% had witnessed violence within their family (Finkelhor, Turner, Shattuck, & Hamby, 2015). In 2017, an estimated 34 million school-aged children in the United States had experienced at least one traumatic event (Bethell, Davis, Gombojav, Stumbo, & Powers, 2017).

The National Child Traumatic Stress Network has identified the following experiences that may be categorized as traumatic for children: (a) physical, sexual and psychological abuse; (b) natural disasters; (c) family or community violence; (d) sudden loss of a loved one (i.e., death or incarceration); (e) familial substance use; (f) refugee and war experiences (i.e., torture); (g) serious accident or life-threatening illness; and (h) military family-related stressors (i.e., deployment, injury, etc.). Further, witnessing an event that threatens the life of a loved one is

traumatic for a child, as children's sense of safety depends on the perceived safety of their attachment figures (National Child Traumatic Stress Network, 2018). Indirect or direct exposure to a traumatic event can negatively influence childhood development, resulting in abnormal brain structure and functioning, cognitive functioning, emotional health, behavioral health and physical health (Martin et al., 2017). As observed by Kerig et al. (2009), untreated childhood PTSD symptoms are associated with negative outcomes during adolescence (e.g., aggression, anxiety, criminal activity, depression, and substance abuse), and childhood mental health disorders negatively affect social and academic functioning and decrease opportunities for educational advancement and future employment (Larson, Spetz, Brindis, & Chapman, 2017). Yet, up to 70% of children and adolescents with mental health disorders do not receive mental health services, with racial/ethnic minorities and lower socioeconomic children disproportionately not receiving treatment (Larson et al., 2017).

Larson and colleagues (2017) created a conceptual framework to understand childhood trauma and negative adult health outcomes, based on; (a) social determinants of health (Link & Phelan, 1995), (b) measurements of health disparities (Braveman, 2006), and (c) exposure to childhood adverse events (Felliti et al., 1998). The conceptual framework demonstrates that exposure to childhood trauma increases the risk for developing mental health disorders, and mental health disorders lead to poor academic achievement (Larson et al., 2017). Also, poor academic achievement leads to lower levels of social capital and higher rates poverty in adulthood, decreasing the ability to escape exposure to adverse events (Larson et al., 2017). Without early intervention, transitions of children's cycles of chronic trauma may persist from generation to generation (Larson et al., 2017).

Children in Low-income Families or Communities

In a nationally representative sample (N = 2,030) elementary-aged children completed the National Survey of Exposure to Violence (Finkelhor et al., 2013) and the results identified several risk factors contributing to childhood trauma, including (a) living in a low socioeconomic household, (b) being of a racial/ethnic minority, (c) caregivers having low education levels, and (e) living with single parent or step-parent. Osofsky and colleagues (2015) observed that children from low-income families and/or communities are exposed to several traumatic events throughout their childhood including abuse, neglect, and community violence. In addition, racial group membership has been associated with adverse childhood experience risk, with Black/African American and Hispanic/Latino populations being at the greatest risk (Larson et al., 2017). The rates for ethnic minority youth in the United States who have experienced abuse and neglect are significantly higher than for ethnic majority children who have been deemed to be approximately 26.5% more likely to be exposed to a violent trauma (Overstreet & Mathews, 2011).

The National Survey of Children's Health (2012) found that economic hardship was the most common factor, nationally, in reported adverse childhood experiences. Children from low-income families are at an increased risk of adverse development, due to negative environmental factors such as violence, crime, inadequate schools, and abuse (Collins, 2016). Possible adverse development events triggered by poverty include: food insecurity, parental substance abuse, parental unemployment, episodes of homelessness, marital discord, parental mental illness, and parental incarceration (Larsen et al., 2017). School-aged children from low-income and/or racial/ethnic minorities, who are exposed to trauma or victimization, have a greater risk for

developing anxiety, depression, conduct disorder, PTSD, suicidal ideation, and attention deficit hyperactivity disorder (Overstreet & Mathews, 2011). Becker, Greenwald and Mitchell (2011) noted that several effective strategies have been implemented to help engage impoverished minority children and their families in mental health treatment, including (a) community and school-based services, (b) providing services in the language of the family's choice, (c) focusing on the family system opposed to an individual, and (d) using motivational interventions to encourage treatment participation. However, the majority of the approaches implemented in impoverished environments have not explicitly addressed the impact of trauma (Becker et al., 2011; Santiago et al., 2018).

Mental Health

The most common representation of trauma within children is the diagnosis of PTSD; however, based on the development of the child, trauma symptomology may differ (Osfosky et al., 2015). Due to the rapid development of children both emotionally and physiologically, exposure to trauma and childhood maltreatment can have serious psychological impact (Osfosky et al., 2015). Symptoms that may be present following a trauma include: (a) the development of new fears, (b) separation anxiety, (c) sleep disturbance (e.g., nightmares), (d) sadness, (e) anger, (f) irritability, (g) somatic complaints, and (h) loss of interest in normal activities (Osfosky et al., 2015). Untreated childhood trauma symptoms can lead to more severe mental health disorders and negative behaviors such as depression, suicidality, and incarceration (Santiago et al., 2018). Trauma symptomology differs among each child and developmental level, and some symptomology is more visible (i.e., aggression), whereas other symptomology such as negative self-talk is more difficult to identify (Martin et al., 2017).

Physical Health

When a child experiences a traumatic event, the stress hormone cortisol is released to provide the body with the tools to escape the stressful situation (McCabe & Schneider, 2009). However, due to the physiological and psychological development of children, extended periods of cortisol release negatively affect a child's brain chemistry and lowers resistance to disease (Gunnar & Barr, 1998). Other physiological symptoms resulting from trauma that are seen in children include an increase in heart rate, muscle tension and breath rate, which contribute to aggression and anxiety (McCabe & Schneider, 2009); and individuals' physiological arousal accompanies irrational thoughts, promoting a decrease in self-regulation and impulse-control (Hollin & Palmer, 2003). Children of chronic trauma are at risk for multiple physical disorders due to the impact of stress on the body (Felitti, 1998).

Adverse Childhood Experiences Study

Felitti (1998) examined the impact of adverse childhood experiences on adults' physical health. Initially, Felitti conducted interviews with adult patients and found themes supporting a relationship between childhood trauma and adult diseases (i.e., heart disease, cancer, and liver disease). Felitti joined the Center for Disease Control and Prevention (CDC), launching the well-known Adverse Childhood Experiences Study (ACE) to examine the impact of childhood trauma on health decades later, with adults (N = 17,000) recruited between 1995-1997.

Although the ACE study remains active in providing long-term follow-up for health conditions, it provided groundbreaking insight into childhood trauma. The initial findings linked one adverse childhood experience to (a) risky health behaviors (e.g., substance use, obesity,

smoking, promiscuity), (b) chronic health conditions (e.g., heart disease, cancer, stroke, and diabetes), and (d) early death (Dube, Felitti, Dong, Chapman, Giles, & Anda, 2003).

Over 40% of the original sample reported having two or more adverse childhood experiences, which was associated with a 700% increase in alcoholism, a doubling of risk of being diagnosed with cancer, four-times more likely to be diagnosed with emphysema, and a 3,000% increase in attempted suicide (Dube et al., 2012). Ultimately, based on preliminary findings of the ACE study, the link between childhood trauma and adult onset of chronic disease was attributed to the chronic stress trauma inflicts on a child's developing brain (Dube et al., 2012).

Academic Functioning

Mental health and behavioral problems resulting from childhood trauma may influence negative outcomes on academic behavior and functioning (Porche, Fortuna, Lin, & Alegria, 2011). Specifically, trauma influences children's cognitive development; thus, impacting attention, and the ability to regulate emotions and behaviors within the classroom (Porche et al., 2011). Blodgett (2015) examined children (N = 2,100) at 10 elementary schools and found children who had three adverse childhood experiences, including divorce, homelessness, community violence, or family member substance use, were three times more likely to fail academically, four times more likely to demonstrate poor health impacting functioning at school, five times more likely to have severe attendance problems, and six times more likely to have school behavioral problems, as compared to children with no known trauma. Children exposed to trauma have an increase in stress hormones, leaving them in a constant state of arousal making it difficult to learn; furthermore, traumatized children have trouble trusting teachers and school

staff and may have difficulty creating relationships with school peers, affecting their feeling of connectedness to school (Blodgett, 2015). With this lack of connectedness, children may not see the value in education and are at an increased risk of discipline problems, truancy or high absence rates, and academic failure, resulting in repeating a grade level (Blodgett, 2010).

Academic functioning impairments contribute to adolescent high-school dropout and delinquent behavior (Bruce & Waelde, 2008). Specifically, 90% of children in juvenile detention have experienced a traumatic life event, and the majority have an identifiable diagnosis of PTSD (Abram et al., 2004). Therapeutic interventions designed to assist children's traumatic symptomology are significant in mitigating their possible future delinquent behavior that may lead to incarceration (Abram et al., 2004; Bruce & Waelde, 2008). Voisin, Neilands, and Hunnicutt (2011) conducted a cross sectional analysis survey with urban high school students (*N* = 563) to examine the effects of violent trauma on academic performance and found that exposure to violence increased aggressive behaviors in females and psychological problems in males, contributing to less student-teacher connectedness and lower grade point averages. Ultimately, chronic childhood trauma has a significant negative impact on academic performance mediated by mental health disorders (Larson et al., 2017). Children and adolescents exposed to trauma are more likely to perform poorly in school, leading to diminished educational and employment opportunities and an increased risk for chronic mental health conditions (Larson et al., 2017).

Complex Trauma

Complex trauma is "associated with histories of multiple traumatic stressors and exposure experiences, along with severe disturbances in primary care giving relationships"

(Courtois & Ford, 2009, p. 18). Although the DSM-III attempted to provide an all-inclusive definition of PTSD, it did not address early antecedents within childhood and the long-term impacts (Herman, 1992). Thus, Herman (1992) was the first to identify complex trauma and its association with PTSD. Herman (1992) suggested that Complex PTSD should be included within the umbrella of PTSD due to the multiple origins of trauma influencing all aspects of an individual's life. For example, mental health professionals stigmatized women with borderline personality disorder due to the misunderstanding of the connection of their early childhood traumatic experiences that influenced personality development (Herman, 1992). Courtois and Ford (2009) expressed the belief that untreated childhood complex trauma impacts psychological functioning and can lead to severe mental health and behavioral issues in adulthood, such as, substance use, personality disorders, and delinquency. Therefore, clinical interventions tailored to address complex childhood trauma should not only address immediate trauma symptoms, but also other aspects of a child's functioning resulting from the trauma (Courtois & Ford, 2009).

Evidence-based Trauma Treatment for Children

A common theme in the literature pertaining to childhood trauma is the emphasis for an early trauma-based clinical intervention (Gardiner, Iarocci, & Moretti, 2017). Several trauma-based clinical interventions are effective with traumatized children (Bartlett et al., 2018); however, many differ in theoretical framework and implementation. Some core components of effective trauma-based interventions include (a) a cognitive behavioral framework, (b) exposure techniques, and (c) attachment theories (The National Child Traumatic Stress Network, 2012). The following section presents supported clinical interventions with traumatized children, including trauma-focused cognitive behavioral therapy (TF-CBT; Cohen, Mannarino, &

Deblinger, 2016), play therapy approaches, and child-parent psychotherapy (CPP; Barlett et al., 2018).

TF-CBT is a structured conjoint parent-child treatment intervention that utilizes cognitive-behavioral principles and exposure techniques to treat children's PTSD symptomology, depression, and behavioral problems (Cohen et al., 2016). de Arellano and colleagues (2014) conducted a meta-analysis examining the effectiveness of TF-CBT with children and adolescents who have experienced trauma. Findings identified TF-CBT's effectiveness in reducing PTSD symptoms, depressive symptoms, behavioral and sexual problems, and parenting practices (de Arellano et al., 2014). Further, TF-CBT has been tested with diverse populations including African American and Latino youth in urban, suburban, and rural areas, and it has shown effectiveness in Australia and Europe (de Arellano et al., 2014). Furthermore, TF-CBT's handbook has been translated into over 15 languages, including; Spanish, German, Polish, Korean, and Russian (de Arellano et al., 2014). A criticism of child trauma interventions grounded in a cognitive behavioral therapy framework (Beck, 1960) has been that the structured cognitive intervention approach is not developmentally appropriate, as young children do not yet have the cognitive skills for causal reasoning, perspective taking, self-reflection, and verbal expression (The National Child Traumatic Stress Network, 2012).

Play therapy approaches have shown to be effective with children following a traumatic event (Association for Play Therapy [APT], 2017). Specifically, play therapy is the systematic use of a theoretical model and the therapeutic power of play to help children psychosocially to achieve optimal growth and development (APT, 2015). Cognitive behavioral play therapy (CBPT) has been shown to be effective in the reduction of trauma related and behavioral

symptoms in children (N = 13) following the Bam earthquake (Knell, 1998; Mahmoudi-Gharaei, Bina, Yasami, Emami, & Naderi, 2006). Also, a long-term play therapy (once a week for nine months) intervention resulted in a significant decrease in trauma severity, anxiety, depression and post-traumatic stress symptoms in (N = 18) sexually abused children (Reyes & Asbrand, 2005).

Child Parent Psychotherapy (CPP) is an intervention for children under the age of six based on attachment theory that examines the impact trauma has on the parent-child relationship (Lieberman & Van Horn, 2005). CPP focuses on safety, affect, and regulation to improve the child-caregiver relationship and to return the child to a normal developmental trajectory (Lieberman & Van Horn, 2005). Three randomized control studies have examined CPP's effectiveness with traumatized children (Liberman, Van Horn, & Ippen, 2005; Toth, Maughan, Manly, Spagnola, & Cicchetti, 2002; Tyndall-Lind, Landreth, & Giordano, 2001). These researchers found CPP to be effective in the reduction of PTSD and depressive symptoms, improvement in representations of self and caregiver, and change in attachment classification. Limitations with CPP include the long treatment length (average of 50 sessions), constricting age group, and difficulty in replication due to a non-manualized approach (The National Child Traumatic Stress Network, 2012).

Although TF-CBT has been identified as best practice for use with abused and traumatized children based on evidence of efficacy with children in multiple randomized controlled studies (Rubin, Washburn, & Schieszler, 2017), empirical evidence has suggested other forms of trauma-specific treatment equally effective. Schottelkorb, Doumas, and Garcia (2012) were the first to implement a play therapy intervention within a school setting to address

trauma symptomology in children. Specifically, Schottelkorb and colleagues examined the effectiveness of a child-centered play therapy (CCPT) treatment approach for school-aged refugee children ($N = 31$) demonstrating trauma symptomology (Axline, 1969). Researchers implemented a randomized-comparison group research design to compare CCPT and TF-CBT. The CCPT intervention included 17 sessions twice a week for 30 minutes. The TF-CBT intervention included 18 sessions with nine child sessions once a week for 30 minutes, and nine parent sessions once a week for 30 minutes, a total of an hour of treatment a week. Results indicated that both interventions equally demonstrated reduction in PTSD severity.

Bartlett and colleagues (2018) examined the effectiveness of three community-based trauma treatments with ($N = 842$) children (ages 1-18) involved in the child welfare system, with four observation points of measurement (i.e., baseline, 6 months, 12 months, and 18 months). The three trauma treatments included (a) attachment, self-regulation and competency (ARC), (b) CPP, and (c) TF-CBT. All three groups showed effectiveness in child PTSD symptom reduction by the six-month timeframe. However, strength of results differed by treatment model, as TF-CBT and ARC provided a reduction in more traumatic symptomology. At 12-months the reduction of trauma symptoms was less consistent, with change only in avoidance/numbing symptomology within the TF-CBT model. Barlett and colleagues (2018) noted several limitations within their study: (a) the lack of a control group with no treatment, (b) unequal groups as ARC was only implemented to children under the age of three, (c) did not include measures of treatment fidelity, (d) lacked interrater reliability among clinicians, (e) data collection by clinicians as opposed to researchers, contributing to rater bias, and (f) the high turnover rate of clients due to services being provided in a mental health agency. Thus, when

examining the effectiveness of trauma interventions with children, it was suggested that future studies should include a control group, making trauma treatment more accessible to children to account for attrition (e.g., school-based setting), and implementing strength-based approaches for children with complex trauma (Barlett et al., 2018).

Although evidence-based treatments are effective with children who have experienced trauma, challenges related to transferring evidence-based treatments to community settings, foster care, residential treatment settings, and school settings have been noted (Bright, Raghavan, Kliethermes, Juedemann, & Dunn, 2010). Thus, evidence-based treatment approaches may not be suited for various treatment contexts (Greenwald, Siradas, Schmitt, Reslan, & Sande, 2012). For example, TF-CBT has a strong evidence-base for use with children, but it has not been evaluated within a school-based setting (Santiago et al., 2018). As access to treatment is the greatest barrier in children receiving the mental health services they need, modulated evidence-based treatment interventions may not be the most effective treatment option for traumatized children (Greenwald et al., 2012). For this reason, the implementation of trauma-informed treatment approaches has increased (Greenwald et al., 2012).

Trauma-informed Care

Trauma-informed care (TIC) serves as a framework that involves understanding, recognizing, and responding to trauma, and incorporating the understanding of trauma into treatment approaches (Osfosky et al., 2015). Hopper, Bassuk, and Olivet (2010) defined TIC as:

> A strengths-based framework that is grounded in an understanding and responsiveness to the impact of trauma, that emphasizes physical, psychological and emotional safety for

> both providers and survivors, and that creates opportunities for survivors to rebuild a sense of control and empowerment. (p. 81)

Hopper and colleagues (2010) conducted a review of literature and identified four key principals of TIC, including (a) trauma-awareness, (b) emphasis on safety, (c) opportunities to rebuild control (e.g., emotional regulation, impulse control, etc.), and (d) use of a strengths-based approach. The effective use of the described principles minimizes the risk of re-traumatization, fosters self-efficacy, increases the ability to regulate emotions, and improves relationships (Gardiner et al., 2017). Similarly, Bath (2008) identified three universal critical factors that promote healing within the context of TIC, creating the three pillars of TIC (safety, connections, and managing emotions). Further, the National Child Traumatic Stress Network (NCTSN) also provides a comprehensive focus to childhood trauma and offers a defined and evaluated components-based approach for TIC (Cook et al., 2005). The six core components identified include (a) safety concerns, (b) self-regulation, (c) self-reflective information processing, (d) traumatic experiences integration, (e) relational engagement, and (f) positive affect enhancement (Cook et al. 2005).

Key principals from the TIC frameworks (Bath, 2008; Cook et al., 2005; Hopper et al, 2010) have the potential to be effective in counseling a child who has experienced trauma (Hopper et al., 2010). TIC is both a preventative and rehabilitative approach, as the goal of TIC is to addresses the impact of trauma and decrease symptomology in attempts to prevent future problematic behavior and severe mental health disorders (Yeager, Cutler, Svendsen, & Sills, 2013). In addition, TIC acknowledges the profound impact trauma has on an individual's emotional and physical safety, behaviors, and relationships (Yeager et al., 2013).

Trauma-informed Treatment

Berliner and Koklo (2016) have criticized TIC as lacking definitional clarity and being insufficiently different from effective clinical care. TIC differs from an evidence-based trauma-specific intervention such as TF-CBT, as it aims to transform the entire system of care by placing priority on an individual's safety, choice, and control (Bryson et al., 2017). Therefore, anyone working with traumatized children (counselors, teachers, health care providers, etc.) can provide TIC (Yeager et al., 2013). Although, TIC is not a trauma-specific clinical intervention, clinical practice can incorporate TIC principals to create trauma-informed treatment (Yeager et al., 2013). Greenwald (2005) stated that a counselor must have basic therapeutic skills when counseling traumatized children, and trauma-informed treatment is distinguished in how the interventions are informed and organized around trauma theory (Greenwald, 2005). Thus, counselors demonstrate the core conditions of unconditional positive regard, empathy, and genuineness (Rogers, 1957) throughout trauma-informed treatment (Greenwald, 2005). When implemented, it is recommended to use a number of proven-effective treatment interventions (i.e., motivational interviewing, cognitive-behavioral therapy, parent training, and play therapy) to assist clients in reaching their goals (Greenwald, 2005).

TIC within counseling tailors the clinical approach to recognize how a traumatic experience influences individuals' mental health, including emotional and behavior responses (Becker et al., 2011). Trauma-informed treatment considers trauma within a comprehensive approach and is applicable to a wide range of presenting problems (Becker et al., 2011). The purpose of trauma-informed treatment is to facilitate re-establishing clients' safety, identify triggers associated with the traumatic event, develop healthy coping skills, and decrease trauma

symptomology (Becker et al., 2011). Additionally, trauma-informed treatment is a person-centered response focused on improving all aspects of individual's wellness, rather than simply treating symptoms of mental illness (Rivard, Bloom, McCorkle, & Abramovitz, 2005).

Research on Trauma-informed Treatment

Implementing trauma-informed treatment techniques within clinical practice serves as an accessible and promising strategy for addressing traumatized children's needs. However, research on the impact of trauma-informed treatment is limited, as studies tend to focus on evidence-based trauma-specific treatment that is not always accessible to children and families (Becker et al., 2011). In the following sections, trauma-informed treatment models that have been researched and have been determined to be effective with traumatized youth are described, including their limitations and implications for practice.

Sanctuary Model

Bloom (1997) created the Sanctuary Trauma-informed Model to incorporate a trauma-focused framework in addressing the specific needs of children with serious emotional disturbances resulting from trauma. The Sanctuary Model integrates trauma theory (Bloom, 1997), and Friedrich's (1996) recommended child treatment strategies to address PTSD symptoms, emotional and behavioral developmental disruptions, and unhealthy attachments. Bloom developed the Sanctuary Model to provide short-term treatment, in acute inpatient psychiatric setting for adults who experienced childhood trauma (Bills & Bloom, 1998; Rivard et al., 2005). The model has since been adapted in other settings, including residential treatment settings, outpatient settings, substance abuse programs, and parenting support programs.

The Sanctuary Model aims at strengthening the therapeutic environment by empowering children to make positive change within their own lives (Bloom, 1997). The model also includes the application of a trauma-recovery framework (Foderaro & Ryan, 2000) and cognitive behavioral strategies to teach children effective behaviors and coping skills to replace unhealthy cognitive, social, and behavioral patterns that were acquired following a traumatic event (Rivard et al., 2005). Specifically, the Sanctuary Model serves as a psychoeducation group framework that covers four stages of recovery, referred demonstrated in the acronym, SELF: (a) safety (i.e., attaining safety in self, relationships and environment), (b) emotional management (i.e., identifying and managing emotions in response to the trauma), (c) loss (i.e., grieving losses associated with the trauma), and (d) future (i.e., demonstrating healthy thoughts and behaviors). In 2013, the Sanctuary Model was used as a systematic organizational change process model for over 250 human services delivery programs around the country and internationally, many serving children and adolescents (Bloom, 2013). However, to-date only one controlled randomized trial of the implementation of the Sanctuary Model was conducted to examine the effectiveness of the model on child trauma symptomology (Rivard et al., 2005).

Rivard and colleagues (2005) were the first to examine the Sanctuary Model in a residential treatment program for traumatized children using 12 psychoeducation groups organized around the SELF recovery framework. The school provided training in trauma theory and the Sanctuary Model's SELF recovery framework. Researchers implemented a comparison group design with three data collection observation points (baseline, three months, and six months) to measure the effects of the Sanctuary Model on therapeutic environment outcomes, as measured by the Community Oriented Programs Environment Scale (COPES; Moos, 1996). In

addition, youth outcomes were measured by six constructs: (a) the CBCL (Achenbach, 1991), (b) the *Trauma Symptom Checklist for Children* (Briere, 1996), (c) the *Rosenberg Self-esteem Scale* (Rosenberg, 1979), (d) the *Nowicki-Strickland Locus of Control Scale* (Nowicki & Strickland, 1987), (e) the *Youth Coping Index* (McCubbin, Thompson, & Elver, 1996) and (f) the *Social Problem Solving Questionnaire* (Sewell, Paikoff, & McKay, 1996). The Sanctuary Model was piloted in four residential units ($N = 158$) and the control comparison group consisted of eight other units providing a standard residential treatment. Results indicated there was no significant difference across two conditions at baseline and three months in relation to therapeutic community outcomes and youth outcomes. However, by six months there was a statistically significant difference between groups, as the treatment group improved on the COPES domains of support, spontaneity, autonomy, personal problem orientation, safety, and total composite scores. Youth outcomes showed a statistically significant difference within the two groups, favoring differences with the treatment group from baseline to six months outcomes in domains of locus of control, externalizing behaviors, and verbal aggression (Rivard et al., 2005). Results identified the trauma-informed treatment approach may be more beneficial than treatment as usual with traumatized youth (Rivard et al., 2005). Rivard and colleagues (2005) noted that future research using the Sanctuary Model should include greater treatment fidelity efforts and the use of shorter assessments to measure behavioral outcomes. Additionally, authors emphasized the need for continued research surrounding the Sanctuary Model, specifically to measure trauma symptomology, emotional and behavioral outcomes of traumatized youth following the trauma-informed treatment intervention (Rivard et al., 2005).

Fairy Tale Model of Trauma-informed Treatment

The Trauma Institute and Child Traumatic Institute (2015) identified the Fairy Tale Model of Trauma-informed Treatment (Greenwald, 2005) as the standard of care in trauma treatment, and the California Evidence-based Clearinghouse recognized it as an evidence-based trauma-informed treatment, grounded on empirical support (Trauma Institute & Child Trauma Institute, 2015). The Fairy Tale Model includes a trauma-informed psychotherapy framework that facilitates a child in telling a fairy tale (Greenwald, 2003). Further, each element of the story corresponds to one of the phases of treatment. The phases of treatment include (a) evaluation (i.e., strengths, trauma history, and presenting problems), (b) identification of client's goals, (c) trauma-informed case formulation and treatment contracting, (d) stabilization (i.e., parent/staff training, problem-solving, and avoidance of high risk situations), (e) identification and enhancement of coping skills, impulse control and self-regulation, (f) resolution of trauma and memory loss, (g) consolidation of gains, and (h) anticipation of future challenges.

Fidelity to the Fairy Tale Model of Trauma-informed Treatment (2015) includes working toward each phase of treatment, allowing the therapist the freedom to choose specific interventions and counseling techniques (e.g., motivational interviewing, trauma resolution, relapse prevention, parental training, attachment work, and cognitive behavioral therapy) on how to best work through each phase based on the unique needs of the child (Greenwald et al., 2012). The model involves a trauma-informed perspective and provides strategies and skills, but does not involve scripted interventions (Greenwald, 2005). Thus, the Fairy Tale model is applicable to various settings such as schools, community agencies, residential care, foster care, outpatient clinics (Greenwald et al., 2012).

Greenwald (2003) introduced the Fairy Tale Trauma-informed Treatment Model in a youth residential facility that had experienced significant problems with resident violence and other serious problem behaviors. Researchers trained the therapists, supervisors, and direct care staff in the trauma-informed treatment model (Greenwald, 2003). Following two months post-training, the behavioral incident count (i.e., assault, runaway, property destruction, etc.) decreased by 50% on all five residential units, as compared to any incident counts of the prior six months. Specifically, at the six-month observation point, physical assault had the greatest reduction of incident report. Further, Farkas, Cyr, Lebeau, and Lemay (2010) introduced the Fairy Tale model in Quebec, providing an individualized trauma-informed therapeutic intervention for sexually abused children. Farkas and colleagues (2010) conducted a randomized study to compare standard care to the individual treatment portion of the Fairy Tale model for children in foster and residential care. Results indicated a statistically significant reduction of PTSD symptoms and improved behavioral outcomes for the children in the Fairy Tale model condition, with improvements persisting at the three-month follow-up observation point. Becker and colleagues (2011) examined the effectiveness of the Fairy Tale model within community outreach focus groups with children ($N = 59$) living in an impoverished urban neighborhood that experienced at least one traumatic event. Results demonstrated an 87% retention rate and clinically significant reduction of PTSD symptoms per parent and child report. Limitations included the lack of a comparison group and difficulty in generalizability of findings due to the unique features of the urban neighborhood where the intervention was implemented (Becker et al., 2011). However, results demonstrated that children living in poverty might benefit from trauma-informed treatment such as the Fairy Tale model, if appropriately adapted and

presented within their community (Becker et al., 2011). Becker and colleagues (2011) suggested future research should (a) continue to engage impoverished multicultural children and families, (b) include a comparison group, and (c) increase efforts to maintain treatment fidelity.

Greenwald and colleagues (2012) provided the Fairy Tale treatment model training to therapists working with children ($N = 48$) in a residential treatment facility. Greenwald and colleagues (2012) compared outcomes from the Fairy Tale treatment model with children from the year prior who did not receive the trauma-informed treatment intervention. A factorial design was implemented to include between subject (treatment for year one and year two) and within subject (pretest and posttest assessment scores) change. Results of a multivariate mixed model between-within analysis of variance (ANOVA) identified significant within-subject change within the Fairy Tale treatment group $F_{(1, 18)} = .52.11$, $p < 0.001$; $\eta^2 = .75$ on the Problem Rating Scale (PRS; Greenwald, 1996) per parent report. Participants who received the Fairy Tale treatment model had a significantly greater reduction in PRS scores (60%) than in year comparison group (16% decrease) with a large effect size of 0.73. Researchers noted the limitations included lack of treatment fidelity and inconsistency in sessions completed by the children in both the treatment and comparison groups.

Overall, the Fairy Tale model (2005) of trauma-informed treatment is one of the only models that has bridged the gap between trauma-specific treatment (i.e., TF-CBT) and trauma-informed treatment by integrating trauma-informed care within psychotherapy. Further, the Fairy Tale model is effective with children, including diverse populations (e.g., urban youth and Canadian youth; Becker et al., 2011; Farkas et al., 2010). The Fairy Tale model is a replicable and adaptable treatment approach to various settings (Greenwald et al., 2012). The approach is

flexible in clinical execution, and therapists have the freedom to choose counseling skills and interventions to help children work through each stage of the model. Greenwald and colleagues (2012) reported that the Fairy Tale model may contribute more to stabilization as opposed to transformation in traumatized children. However, the researchers noted the need for investigations with larger sample sizes, with diverse populations, in diverse settings, and with stronger treatment fidelity procedures to continue to examine the effectiveness of the trauma-informed treatment model (Greenwald et al., 2012).

School-based Mental Health Counseling

Trauma symptomology in elementary-aged students from families or communities of low socioeconomic status (SES) often worsen and persist into adolescence and adulthood due to barriers in mental health care (Overstreet & Mathews, 2001; Solomon et al., 2016). The delivery of mental health services in schools increases the likelihood that students will receive treatment, as school-based services assist in mitigating barriers, (e.g., stigma and cost), to accessing treatment (Overstreet & Mathews, 2011). Access to mental health treatment is important for low-income minority youth, as they are more likely to experience trauma and not receive the services they need (Overstreet & Mathews, 2011). However, families from low SES communities will preferentially utilize school-based mental health counseling services (SBMHCS) over alternative community options due to the no cost and accessible component of SBMHCS (Solomon et al., 2016). Early intervention is recommended in treating trauma that originates in childhood; however, middle and high schools offer far more mental health services within the school setting than elementary schools (Reback, 2010). Additionally, the majority of SBMHCS are often

expensive, time-consuming, modulated programs, led by teachers and are lacking in a mental health clinical focus (Farahmand et al., 2011).

Larson and colleagues (2017) conducted an extensive review of the literature, examining studies between 2003 and 2013 that focused on (a) chronic childhood trauma and the impact on mental health and academic achievement; (b) disparities in childhood and adolescent mental health care; and (c) United States school-based health centers (SBHC), specifically centers that provided mental health services. Larson and colleagues (2017) reviewed the literature to explore the impact of chronic childhood trauma on academic achievement (mediated by mental health care) and the effectiveness of school-based health care. Larson and colleagues (2017) examined the need for access, utilization, and funding of mental health care services provided in schools, specifically in the context of chronic childhood trauma.

Results pertaining to chronic childhood trauma and impact on mental health literature showed a significant risk of mental health disorders and poor academic achievement when children or adolescents were exposed to trauma (Larson et al., 2017). Frequent exposure to traumatic events was found to have had the most impact on mental health disorders and risk for dropout, and significant disparities were also found in child and adolescent mental health care in domains of access, utilization, quality, and funding (Larson et al., 2017). Income, race/ethnicity, and site of residence-influenced disparities in mental health care were also impactful (Bethell et al., 2011). Further, among publicly insured families; Asian, African American/Black, and Hispanic/Latino children were less likely to receive mental health services (Larson et al., 2017). African American/Black and Hispanic/Latino youth had higher numbers of mental health symptoms, with reports of fewer clients having received mental health care (Larson et al., 2017).

Further, the use of outpatient mental health services by African American and Latino youth (ages 5-17) was significantly lower than White children (Le Cook, Barry, Busch, & 2013).

School-based health centers (SBHC) are funded programs often operated as a partnership between the school and community health organizations including hospitals and local health departments (Larson et al., 2017). SBMHs provide health care to meet several needs of students, including medical care, dental care, health education, substance abuse counseling, case management and mental health services (Larson et al., 2017). Results pertaining to the SBHC identified that SBHCs increased access to and utilization of mental health care services (Larson et al., 2017). However, African American/Black and Hispanic/Latino children were less likely to have used SBHCs (Larson et al., 2017). Furthermore, SBHCs providing mental health services were determined to be effective in increasing grade point average (GPA), attendance rate, and improving mental health symptomology (Larson et al., 2017).

Larson and colleagues (2017) reported bringing trauma-informed care onto campus to create trauma awareness to teachers, families and children. SBHCs have often not provided adequate mental health services, as they have often been troubled by a considerable lack of funding. Larson and colleagues (2017) suggested that free SBMHCIs may be effective providing access for children in receiving mental health counseling to address trauma symptomology and to promote academic performance.

Research on School-based Mental Health Counseling

Bernstein, Layne, Egan, and Tennison (2005) comprised one of the first groups of researchers to examine a clinical intervention delivered by outside clinical providers during after-school hours in a school-based setting. Specifically, researchers examined the effectiveness of a

school-based cognitive-behavioral therapy (CBT) intervention for children ($N = 453$) with anxiety symptoms from three elementary schools. The treatment design compared three randomly assigned groups: (a) children receiving nine weekly CBT group sessions, in addition to a parent training group ($N = 17$); (b) children receiving nine weekly CBT group sessions, without a parent training group ($N = 20$); and (c) a control group that did not receive any CBT treatment ($N = 24$). Findings identified that both CBT treatment groups (with and without the parent training group) were significantly more effective than the no-treatment control group, in decreasing anxiety symptomology and in facilitating remission of baseline anxiety diagnosis per child, parent and clinician report. Furthermore, the CBT treatment group plus a parent training showed significantly greater improvement in parents' reports of child anxiety symptomology, with a notably higher effect size of .88. A limitation noted within this study was that the sample included mostly Caucasian families in a suburban location. Researchers noted the lack of racial and economically diverse participants influenced the generalizability of the results (Bernstein et al., 2005).

Farahmand and colleagues (2011) conducted a meta-analysis to assess the effectiveness of SBMHCS for urban youth living in low-income homes. Findings indicated the majority of SBMHCS included a psychoeducation modulated treatment program, provided by a teacher or school staff member. Farahmand and colleagues (2011) reported SBMHCS appeared to be effective in improving socio-emotional and behavioral outcomes for children living in low-income communities. Results identified SBMHCS as more effective when interventions were internalizing-focused, as compared to externalizing-focused and were concentrated on conduct problems or substance use.

Based on the results of Farahmand and colleagues' (2011) meta-analysis, limitations within the SBMHCS research included (a) small sample sizes, (b) lack of control group, (c) insufficient evidence of developmentally appropriate clinical intervention (requiring focus on externalizing behaviors), (d) lack of follow-up procedures (e.g., six of 23 studies provided follow-up data), and (e) potential for rater bias (the majority of services were provided by usual care providers). Farahmand and colleagues (2011) recommended that future SBMHCS research should be employed by outside clinical providers and should include a developmentally appropriate clinical intervention that addressed externalizing behavior, incorporate a control comparison group and larger sample sizes, and implement follow-up procedures.

Following Farahmand and colleagues' (2011) meta-analysis, several SBMHCIs have demonstrated positive outcomes in elementary school students' academic achievement and behavioral symptoms (including externalizing behavioral change). Wolpert and colleagues (2013) examined the impact of the Targeted Mental Health in Schools (TaMHS), which is a nationally mandated school-based mental health program in England. TaMHS has aimed to improve mental health for at-risk students by providing evidence-informed counseling. Researchers implemented a cluster-randomized, wait-list control design to assess students (N = 8, 172) from 268 schools, with two observation points pretest (at baseline) and posttest (a year following the intervention) in comparison to students in schools that did not partake in the counseling intervention. Results indicated that students in the treatment group exhibited statistically significant reductions in behavioral problems as compared to the control group. However, there was not a statistically significant difference between the two groups' emotional problems (Wolpert, Humphrey, Belsky, & Deighton, 2013). Researchers noted that emotional

problems may take longer than a year of counseling to improve and suggested long-term school-based treatment (Wolpert et al., 2013).

Further, Liber, De Boo, Huizenga, and Prins (2013) investigated the effectiveness of a child-focused CBT school-based intervention for disruptive behavioral problems in elementary school students ($N = 136$) from 17 elementary schools in low-income communities. Researchers employed a randomized control trial comparing the intervention to a waitlist control condition with pre-intervention and post-intervention measurements; in addition, researchers employed a follow-up procedure with the treatment group. Results demonstrated that children who participated in nine intervention sessions had fewer disruptive behavior problems with an effect size of .31 compared to the waitlist control condition. Further, treatment gains were stable at the follow-up observation point with an effect size of .39. Researchers concluded that a school-based CBT program may be beneficial with difficult-to-reach children (i.e., low SES and racial/ethnic minority backgrounds) with disruptive behavior, as this study had a 97% treatment completion rate.

In another study, Montañez, Berger-Jenkins, Rodriguez, McCord, and Meyer (2015) provided school-based mental health promotion and prevention programs to ethnic minority Latino at-risk students ($N = 174$) from two urban elementary schools in New York City. Results demonstrated increased social and behavioral functioning, academic achievement, and school attendance. Teacher reports revealed statistically significant effects over time on social and classroom performance with a moderate effect size of .08. Students showed a statistically significant improvement on mathematic standardized test scores (with a large effect size of .27) and English standardized test scores (with a moderate effect size of .06). Researchers shared the

outcomes of their pilot study to enhance the limited research on the effectiveness of elementary school-based mental health prevention and promotion programs servicing low-income at-risk youth. They suggested that using both evidence-based practices and innovative culturally sensitive strategies would help promote mental health literacy and foster positive social, behavioral, and academic functioning. Montañez and colleagues (2015) recommended future researchers should implement controlled studies to understand the specific contributions of school-based mental health interventions.

Pfiffner and colleagues (2016) examined the effectiveness of a psychosocial school-based intervention, Collaborative Life Skills (CLS) on elementary-school students with attention deficit/hyperactivity disorder (ADHD) symptoms as compared to students who did not receive the intervention. School-based mental health providers consisting of school, parent, and student treatments (Pfiffner et al., 2016) delivered CLS. Urban public elementary schools were randomly assigned to two groups: CLS (12 schools) and usual services (11 schools). A cluster randomized design was implemented to compare the CLS treatment group ($N = 72$) and the control group ($N = 66$) on five constructs: (a) ADHD symptoms, (b) oppositional defiant disorder (ODD) symptoms, (c) organizational functioning per parent and teacher report, (d) social skills, and (e) academic functioning.

Results identified significant CLS treatment effects were found for post treatment ADHD symptoms per parent ($x^2 = 13.64$, $p = .0002$) and teacher report ($x^2 = 8.7$, $p = .0032$); ODD symptoms per parent ($x^2 = 13.77$, $p = .0002$); organizational functioning per parent ($x^2 = 14.68$, $p = .0001$); and teacher report ($x^2 = 8.58$, $p = .0034$); and social skills per parent report ($x^2 = 4.25$, $p = .0393$). Although there was not a statistically significant group difference on academic

functioning, 72% of the CLS group scored in the average or above average range, as compared to 52% of the control group. Furthermore, teachers did not report a change in CLS social skills or ODD symptoms. The results demonstrate the effectiveness of a multicomponent school-based mental health treatment model with parent and teacher involvement to improve students' organizational, academic and social functioning.

Several play therapy interventions have been implemented in school-settings as SBMHCIs with racial/ethnic diverse students. Lin and Bratton (2015) conducted a meta-analytic review of CCPT approaches and found the overall moderate treatment effect size of .47; with statistical improvement in internalizing behavior problems (effect size, .48), externalizing behavior problems (effect size, .42), and academic performance (effect size, .46), with statistically significant higher effect for non-Caucasian children. Further, Ray and colleagues (2015) conducted a meta-analytic review of CCPT in school settings. Results indicated statistically significant moderate effect size of .38 for play therapy interventions when compared to control groups with significant decrease in total problem behavior (effect size, .34), internalizing problem behavior (effect size, .21), externalizing behavior (.34), and academic performance (effect size, .36). Examples of CCPT approaches in schools are reviewed. Wilson (2018) implemented a randomized-waitlist control design to examine the effectiveness of CCPT in a school setting ($N = 71$) with a diverse sample for 10-weeks. Results indicated parents reported statistically significant decrease in aggression and an increase in empathy; however, teachers reported nonstatistically significant results. Further, Swank and colleagues (2018) implemented a repeated measures single case randomized-comparison group design to examine the impact of a school-based CCPT group intervention ($N = 10$). Results indicated children

participating in the CCPT group intervention exhibited decrease in total problem behavior opposed to children who were in a psychoeducational school-based group. Garza and colleagues (2005) implemented a school-based CCPT intervention with Hispanic children ($N = 29$) and found externalizing behaviors significantly decreased over time. Cochran and Cochran (2017) examined the effects of CCPT for students with highly-disruptive behavior in high-poverty schools using a nonrandomized-waitlist control with elementary school children ($N = 65$). Results indicated students in the treatment group demonstrated a significant decrease in externalizing, attention problems, and total problem behavior. Results of school-based CCPT differ from past SBMHCI research (Farahmand et al, 2011), as results demonstrate effectiveness of play therapy interventions in improving students' externalizing problem behavior (Meany-Walen, & Teeling, 2016).

Despite the identified limitations of SBMHCS, prior researchers have indicated school-based programs may be effective in improving social and behavioral functioning, academic achievement, and school attendance, especially for hard to reach populations including children from low-income communities and racial ethnic minority backgrounds (Bernstein et al., 2005; Liber et al., 2013; Montañez et al., 2015; Pfiffner et al., 2016). Furthermore, SBMHCS continue to increase, for example in 2015, 60% of U.S. districts provided mental health and social services to students through arrangements with organizations not located on school property (Jayawardene, Erbe, Lohrmann, & Torabi, 2017). As SBMHCS continue to become more common, future research should address existing SBMHCS limitations in future practice, including; implementing control groups, including larger sample sizes, completing follow-up procedures, and providing developmentally appropriate clinical interventions.

School-based Services for Child Trauma

Although the literature has recognized the need for trauma-informed school-based counseling for children, there is a lack of empirical evidence providing an individualized TI-SBMHCI. Additionally, screening for childhood trauma exposure and provision of empirically supported treatments in schools is not common (Santiago et al., 2018). Martin and colleagues (2017) note the importance of incorporating trauma-informed counseling into school-based programs. They further touched upon current limitations for schools in providing trauma-informed counseling, including (a) lack of support from administrators and teachers, (b) problems engaging parents, and (c) stigma regarding mental health (Martin et al., 2017). Santiago and colleagues (2018) also noted several challenges in providing evidence-based trauma treatment in a school setting, including limited resources, time constraints, and competing educational demands. In addition, teachers' abilities to recognize trauma-related symptoms or to distinguish these symptoms from other challenges (e.g., cognitive or language delays, acting out) may hinder children from receiving the appropriate trauma-informed care they necessitate.

Despite the barriers faced within a school-setting, trauma-informed approaches have shown to be effective in schools, by benefiting students, teachers and students. Specifically, trauma-informed school-based approaches have been effective in decreasing children's symptoms of trauma (i.e., PTSD), anxiety, depression, and avoidant coping strategies (Santiago et al., 2018). In addition, trauma-informed school-based service improve children's emotion regulation, academic competence, classroom behavior, and discipline (Santiago et al., 2018).

Schools have implemented school-based group interventions to address trauma within children, as they are cost-effective and more applicable for school mental health clinicians, due

to the ability to serve more students in need (Langley, Gonzalez, Sugar, Solis, & Jaycox, 2015). Trauma-informed group interventions are more likely to be found in high schools and be provided by school staff not needing a clinical background such as in Support for Students Exposed to Trauma (SSET; Jaycox, Langley, & Dean, 2005). However, Cognitive Behavioral Intervention for Trauma in the Schools (CBITS; Stein et al., 2003) and Bounce Back (BB; Langley & Jaycox, 2011) are both group trauma-informed treatment interventions delivered by school clinicians in elementary school settings. Both CBITS and BB have demonstrated great promise in terms of effectiveness and access to underserved youth with PTSD (Jaycox et al., 2010).

Cognitive Behavioral Intervention for Trauma in the Schools

Although, the use of TF-CBT in mental health clinic settings is supported, it has not been evaluated in a school setting (Cohen et al., 2006; Santiago et al., 2018). Thus, given practical and psychological barriers associated with attending mental health clinics (Gamble & Lambros, 2015), access to and engagement in TF-CBT may be limited for many families. CBITS is a school-based trauma-informed group treatment that incorporates TF-CBT components (Stein et al., 2003). CBITS is a 10-session school-based intervention that teaches cognitive behavioral skills in a group format (i.e., relaxation training, cognitive coping, developing trauma narrative, and building social problem-solving skills). Further, CBITS includes one to three individual child sessions, two optional parent sessions, and one teacher session.

Kataoka and colleagues (2003) were the first to examine the effectiveness of CBITS through the implementation of a quasi-experimental design with a waitlist control group, with Latino immigrant students ($N = 152$) who experienced community violence. Results

demonstrated the intervention group had significantly greater improvements in PTSD and depressive symptoms compared to individuals on the waitlist and the three-month follow-up observation point. Stein and colleagues (2003) conducted a randomized control trial with children (N = 126) to examine the effectiveness of 10 sessions of CBITS. Researchers randomly assigned students to the immediate treatment group and a waitlist control group, assessing them prior to the intervention and three months following the intervention. Similar to the initial study of Kataoka et al. (2003), at three-month assessment, students in the early intervention group had significantly lower self-reported symptoms of PTSD than students in the delayed intervention group. Results within the immediate treatment group at the three-month follow-up observation point identified 86% of students as having reported reduction in PTSD symptoms, 67% of students having reported reduction in depression, and 78% of parents having reported less psychosocial dysfunction. Results from the six-month follow-up indicated there was no significant difference between groups after the intervention, further supporting the effectiveness of CBITS. However, teachers did not report significant improvements for either group at any observation point.

Jaycox and colleagues (2010) conducted a study following Hurricane Katrina with (N = 118) students presenting with trauma-related symptoms in three schools. Researchers randomly assigned students to a clinic-based TF-CBT intervention or school-based CBITS. Results indicated that both treatments led to significant improvements in PTSD symptoms. However, CBITS was far more accessible to families. Only 12% of those assigned to TF-CBT completed treatment compared to 93% of those assigned to CBITS (Jaycox et al., 2010). Results

emphasized the importance of a trauma-informed, school-based intervention to improve access and positively affect a large number of children.

Langley and colleagues (2010) explored CBITS implementation barriers by conducting semi-structured telephone interviews with 35 site administrators and clinicians across the United States after their schools received CBITS training. Based on the interview findings, researchers identified several barriers in implementing CBITS: competing responsibilities of clinicians, lack of parent engagement, and lack of support from school administrators. Thus, indicating that implementing a trauma-informed group intervention provided by school staff may not be achievable in many schools. Langley and colleagues (2010) also identified sites that successfully overcame barriers in providing CBITS and found that these schools had a social network of outside clinicians who implemented the school-based trauma-informed counseling services rather than school clinic staff.

Bounce Back Intervention

The Bounce Back program (Langley & Jaycox, 2011) is a school-based group intervention to improve functioning in multicultural elementary-school students exposed to a traumatic event. The Bounce Back program integrates components of two evidence-based interventions of TF-CBT which has a parental component and the school-based group format of CBITS (Langley & Jaycox, 2011). Similarly, to CBITS, the intervention consists of 10 group sessions, with two or three individual sessions, and one to three parental education sessions (Langley & Jaycox, 2011). Bounce Back includes components similar to TF-CBT, psychoeducation, relaxation training, cognitive reconstructing, and completing a trauma-narrative.

Langley and colleagues (2015) were the first to implement Bounce Back in four Title I elementary schools in Los Angeles County, between the academic years of 2011 and 2013. Participants included school-aged children ($N = 74$), and data were collected at three time points (at baseline, three months, and six months) to assess posttraumatic stress per parent and child report, depression, anxiety and parental education. Researchers randomly assigned students to an immediate or delayed three month-waitlist control group. School-based clinicians provided the intervention as part of their job responsibilities. Results indicated that there was no statistically significant group difference on any measure except parental education in the immediate group, demonstrating that parents were more educated on trauma than the delayed group ($p = .032$). However, the immediate treatment group showed statistically significant improvements on all primary outcomes: trauma-symptomology per parent report, child and parent report of depression, and anxiety (all p-values $< .0035$) at the six-month observation compared to baseline. Further, the delayed treatment group showed significant improvement on all noted five primary outcomes at the three- to six-month observation period, when they were receiving the intervention (all p-values $< .02$). Large effect sizes ($f^2 \geq .34$) were demonstrated in three of the five outcomes following the intervention; including, child report of trauma symptomology for both immediate and delayed treatment groups $f^2 = .80$, anxiety $f^2 = .80$ for the immediate treatment group, and parent report of trauma symptomology $f^2 = .34$ for the delayed treatment group following the intervention (Cohen, 1998).

Results identified that a school-based group service such as Bounce Back may be beneficial in circumventing barriers for children receiving treatment in addition to improving child trauma symptomology, and anxious and depressive symptoms. Limitations noted by

researchers included (a) pilot study (e.g., had to modify CBT component for younger children), (b) small sample size, (c) waitlist control design, (d) possibility of rater bias with assessments, and (e) attrition (i.e., 13 African American students discontinued). The researchers suggested that future research should include a shorter duration of treatment to account for attrition and longitudinal procedures to assess sustainability of the Bounce Back intervention (Langley & Jaycox, 2011).

Santiago and colleagues (2018) replicated the initial Bounce Back trial (Langley et al., 2011) with elementary school students exposed to trauma ($N = 52$) in eight low-income schools in Illinois. Researchers assigned students to immediate treatment or a waitlist control group treatment to compare trauma and depression symptomology over time (Santiago et al., 2018). School social workers led the Bounce Back intervention, and children, parents, and teachers of both groups completed assessments at baseline, three months, and six months. Results revealed differential treatment effects (time and group interaction) for child reports of PTSD ($F = 5.79$, $p = .02$; $\eta^2 = .11$) and parent reports of child coping ($F = 7.11$, $p = .01$; $\eta^2 = .13$). Effects demonstrated the immediate treatment group showed greater reduction in PTSD symptoms and coping over time as compared to the delayed group (Santiago et al., 2018). However, there were not significant differential treatment effects for depression and anxiety (Santiago et al., 2018). There were no significant changes in teacher-reported classroom behavior in each group (Santiago et al., 2018). Researchers noted trauma-informed early interventions might be effective in reducing traumatic distress and improving student coping for students in low-income communities (Santiago et al., 2018).

Limitations noted within the Bounce Back program included (a) social workers conducting groups and individual sessions, (b) small sample size, (c) limited groups due to social workers job demands, (d) referrals made based on what school-staff knew about students (as opposed to a universal screening), (e) lack of consistent parent engagement (23% missing data), (f) lacking in treatment fidelity/clinician self-report (Santiago et al., 2018), and (g) lack of teacher engagement, resulting in nonstatistically significant changes in teacher report. Thus, researchers noted implications for future trauma-informed school-based mental health counseling services (a) including a larger sample size, (b) having outside providers conduct sessions, (c) incorporating a more flexible individualized trauma-informed treatment approach, (d) increasing efforts to maintain treatment fidelity, and (e) increasing efforts for teacher involvement.

Summary

This chapter provided an overview of the constructs of interest for this investigation, including (a) components of trauma theory and definitions, (b) trauma and children, (c) trauma-informed treatment, and (e) mental health counseling in a school-based setting. The background, conceptualization, and research for each construct was presented. First, the researcher examined the relationship between trauma and children, specifically children from low-income communities and racial/ethnic minority backgrounds. Next, the researcher differentiated between (a) trauma-specific treatment, (b) trauma-informed care, and (c) trauma-informed treatment. The researcher examined the effectiveness of each approach with traumatized children and identified limitations and implications for future research and practice. Finally, the researcher assessed SBMHCIs' interventions and specific school-based services for child trauma.

This chapter emphasized the necessity of both trauma-informed treatment and SBMHCIs, specifically to mitigate barriers and make services accessible for children from low-income communities. The ability for trauma-informed mental health treatment interventions to assist school-aged children in social-emotional and academic functionality have been discussed. Although theory and research findings identify the utility of both SBMHCIs and trauma-informed treatment for low-income youth, there remains a need to deliver an individualized trauma-informed treatment intervention within a school-based mental health intervention. Thus, at the time of the present study, there was no current research pertaining to the effectiveness of an individual trauma-informed school-based mental health counseling intervention for elementary-aged children. Based on this review of the literature, there are implications for an individualized and flexible trauma-informed treatment intervention incorporating TIC principals into clinical practice, delivered by outside clinical providers in a school-based setting. There remains a demand for outcome-based research to test the usefulness of these constructs in assisting children with their trauma-symptomology, social functioning, emotional functioning, and academic functioning.

CHAPTER 3
RESEARCH METHODS

Introduction

The primary purpose of this study was to investigate the effectiveness of a trauma-informed school-based mental health counseling intervention (TI-SBMHCI) on students enrolled in multiple Title I elementary schools. Specifically, this study aimed to examine the impact of a TI-SBMHCI on participants' social-emotional functionality per parent report (as measured by the CBCL; Achenbach & Rescola, 2001) and teacher report (as measured by the TRF; Achenbach, 1992), trauma symptomology per child and parent report (as measured by the RI; Pynoos et al., 1998, 2017), and academic behavior (as measured by school office discipline referrals, and school attendance).

This chapter reviews the research methods used in the investigation and provides a description of the two-phase research design (i.e., time-series design and quasi-experimental design). Additionally, the researcher reviewed threats to validity and steps that she took to mitigate threats to internal and external validity. Data collection procedures are outlined; including, population, sample, recruitment, incentives, and screening. The data collection instruments used in the study are reviewed and the rationale for the selection of each measure is presented, including a discussion of the measures' psychometric properties with different datasets (i.e., validity and reliability). The researcher introduces the primary characteristics of the TI-SBMHCI and describes her efforts to maintain treatment fidelity. Additionally, the research questions which guided the study are restated and discussed in terms of their alignment with each phase of the study and the data analysis procedures used to respond to them. The chapter

concludes with a review of the ethical considerations and potential limitations for the proposed study.

Research Design

This study implemented a two-phase research design, including two different sets of data collection at different time points (Creswell, 2013). The study utilized data following the implementation of the TI-SBMHCI and school-based data within the fall 2018 - spring 2019 academic terms. The researcher chose the two-phase design to obtain a larger sample size, include a control group, and answer the two research questions which guided the study.

The first phase of the study utilized an interrupted time-series design (pretest, mid, posttest). Participants received a TI-SBMHCI once a week for approximately 50 minutes after school hours for 10 consecutive weeks. Data collection took place at three observation points within the first phase of the study: (a) the first counseling session meeting, constituting the beginning of the intervention (pre); (b) the fifth counseling session, constituting the midpoint of the intervention (mid); and (c) the tenth counseling session, constituting the final observation point (post). The second phase of the study utilized a quasi-experimental comparison group pretest posttest research design with a matched sample, based on covariates to compare the following two groups of participants: (a) those participants who received a 10-week TI-SBMHCI, and (b) those participants who did not receive any SBMHCI from the University and school district partnership, created through PSM (Rosenbaum & Rubin, 1983).

Threats to Validity

Validity has been defined as "an account is valid or true if it represents accurately those features of the phenomena, that is intended to describe, explain or theorize" (Hammersely, 1987, p. 69). Thus, prior to affirming that a method is valid, judgments are made on the trustworthiness of the measurement (Winter, 2000). As a result, threats to validity contribute to the possible inaccuracy of claims made by researchers and making efforts in mitigating threats to validity is crucial in designing a sound study. The following section of the chapter presents how the researcher made efforts in limiting the threats to internal and external validity.

Internal Validity

In experimental research, internal validity refers to the extent to which the manipulation of the independent variable impacts the dependent variable (i.e., outcome), and threats to internal validity indicate that there is not a causal relationship within the study (Cahit, 2015). In quasi-experimental research, internal validity refers to implementing an appropriate research design to control for extraneous variables so that observed change is attributed to the treatment condition (Gall et al., 2007). Thus, in the case of this investigation, internal validity referred to the extent to which the implementation of the TI-SBMHCI influenced participants improved social-emotional, trauma symptomology, and academic behavior. Within this investigation, threats to internal validity included (a) history, (b) maturation, (c) testing effects, (d) instrument change, and (e) treatment mortality.

History and Maturation

Time can be a risk within a research study and external events that happen during the time of the study can influence treatment (Creswell, 2013). The TI-SBMHCI was implemented over a 10-week period during the fall and spring academic semesters. Although the intervention was not conducted for an extended period of time (i.e., a year), history-related threats can be present. For example, since providing the interventions in the beginning of the semester, students' symptomology may change over time, and they may become more comfortable as the academic semester progresses, resulting in improved scores. Further, validity of data may be impacted by maturation and changes in participants over time, specifically fatigue, when it comes to the specific assessments (Creswell, 2013). For example, the CBCL and TRF are long assessments with over 100 items each, and the length may cause the guardian and primary teacher to report inaccurate scores. Thus, when recognizing assessment fatigue as a limitation, the guardians and primary teachers were allowed a week to complete the necessary paperwork. The researcher gave the primary teachers the TRF in their mailboxes with instructions to return the complete TRF a week later. Further, the researcher offered the primary caregivers the options to complete the CBCL at the school site or to take it home for completion. With this flexibility, individuals were able to take their time and record meaningful and accurate responses. Allowing caregivers to complete the CBCL at their homes may be beneficial in terms of time; however, a child's behavior may have changed within the week timeframe. Thus, the length of the data collection instruments chosen, and time flexibility allowed to complete the assessments were noted limitations within this investigation.

Testing Effects and Instrument Change

Throughout a study grounded in survey data, changes in instrumentation may alter the results following treatment, leading to false conclusions (Gall et al., 2007). To account for instrument change as a potential limitation, the researcher did not alter the measures, and the researcher gave the same assessment packet to participants at each observation point (pre, mid, post). In contrast, participants' exposure to the same measurement over time may pose a limitation, as the participants may have become familiar with each instrument and this may have influenced the scores. The researcher acknowledges that instrumentation was a limitation within the study (Christian, Dillman, & Christian, 2008).

Treatment Mortality

Treatment mortality occurs when participants fail to remain in the study for its intended duration (Creswell, 2013). Due to the vulnerable population of children and families from low-income communities receiving treatment, individuals may have failed to complete treatment for a variety of reasons such as lack of transportation, illness, or time commitment (Gall et al., 2007). To account for attrition and treatment mortality, the researcher aimed to recruit more participants than needed based on the minimum sample size calculated in the a priori analysis. In addition, the researcher offered the families an incentive of a $30 gift card upon completion of the study. Additionally, childcare and snacks were provided throughout the duration of the afterschool program between 3:00 pm and 6:00 pm; thus, participants were able to attend their scheduled sessions and caregivers could be flexible in picking-up their children due to outside commitments they may have had.

External Validity

External validity allows results from a study to be generalizable to other settings (Creswell, 2007). Thus, threats to external validity may be attributed to characteristics of the study, (i.e., the period of the study, unique sample characteristics, and setting), interacting with the independent variable (Creswell, 2013). Specifically, external validity refers to the extent to which the results of a study are generalized to other settings, other people, and over time (Shadish, Cook, & Campbell, 2002). Possible threats to external validity within this study included (a) population validity, (b) ecological validity, and (c) historical validity.

Population Validity

Population validity refers to the extent inferences from a sample apply to the population (Shadish et al., 2002). It is difficult for the researcher to examine the overall population due to the broad umbrella of children, from low-income communities, who have experienced a traumatic event. The researcher recognized that these three Title I elementary schools in a large school district in a Southeastern state may have unique characteristics that differ from other elementary schools throughout the United States. Location was therefore viewed as a limitation in this study.

Ecological Validity

Ecological validity refers to the extent in which findings from a research study can be generalizable in other settings and with other samples (Shadish et al., 2002). To account for ecological validity, the researcher provided a thorough description of the treatment methods of each phase of the study, allowing other researchers to replicate the investigation. The researcher

also trained the counselors on the three pillars of trauma-informed care (Bath, 2008) and created a treatment manual that could be used during the delivery of the intervention in replication studies in an attempt to mitigate the concern for ecological validity. Although the researcher made efforts to strengthen treatment fidelity, the three pillars of trauma-informed care is not a modulated intervention. Rather, it is a trauma-informed framework implemented in counseling. Therefore, the researcher acknowledges that true replication of the counseling service and the investigation was a limitation of the study.

Historical Validity

Historical validity, also known as societal validity, pertains to the degree in which the research findings apply at different time points throughout history (Gall et al., 2007). Trauma and its impact on psychological health, specifically with children, has been an area of research focus since the 1980s (Hallett et al., 2018). In addition, 35 million U.S. children have experienced one or more types of childhood trauma (National Survey of Children's Health, 2017). Based on the "School Safety Act (2017-2018)" at the national and state level, there has been a rise in awareness of the need to increase mental health services in schools. Therefore, the researcher hopes that these research findings will contribute to the societal need of addressing the health epidemic of trauma affecting children (Osofsky et al., 2015).

Procedures

Prior to beginning the first phase of the TI-SBMHCI, the researcher received approval from the university's Institutional Review Board (IRB) and the participating school district prior to recruitment or data collection (Appendix B). The IRB application contained fundamental

information regarding the investigation including, (a) objectives and rationale, (b) methods and procedures, (c) participant population selection, (d) treatment, (e) participant compensation (i.e., incentives), (f) confidentiality and data storage, (g) data analysis and evaluation, and (h) risks and benefits of participation. The researcher included all additional research materials such as recruitment flyers, counseling and research consent forms, and data collection instruments in the IRB application.

Sample Size

Determining sample size, statistical power and effect sizes is essential prior to initiating any quantitative study design (Bartlett, Kotrlik, & Higgins, 2001). The researcher used the statistical software G-power 3.1 to calculate an a priori analysis to identify a desired sample size based on previous effect sizes within existing literature (Peng et al., 2012). The calculation was conducted to assess the statistical analysis that would require the largest sample size within the two-phase design; a repeated-measures analysis of variance (RM-ANOVA), containing a within-between group interaction, consisting of two groups (those who receive TI-SBMHCI and those who do not) and three sources of measurement data. Based on the meta-analysis conducted by Farahmand and colleagues (2011) examining school-based mental health counseling interventions with low-income youth ($N = 33$), a power of 80% and a mean effect size of 0.25 was implemented. The analysis identified that the minimum sample size needed for the proposed investigation would be 16 cases for appropriate power. Therefore, to account for attrition, the researcher aimed to recruit more than 25 participants within the treatment group (TI-SBMHCI) that would match at least 25 participants in the treatment group (SBMHCI) that was created through school-based data using PSM.

Data Collection

Phase One

The first phase of the study utilized an interrupted time series design with three observation points (pre, mid, post). The interrupted time series design measured the effect of the independent variable (time in TI-SBMHCI) on the dependent variables (behavior and emotional problem scores, academic behavior, and trauma symptomology) over time with no control group (Glass, 1980). The purpose of Phase One of the study was to examine if (a) behavior and emotional problem scores, as measured by CBCL and TRF; (b) academic behavior, as measured by student attendance, and office discipline referrals; and (c) trauma symptomology, as measured by RI (Pynoos et al., 1998, 2017) changed over time because of participation in a 10-week TI-SBMHCI.

Recruitment

The researcher facilitated recruitment of the elementary school students through school personnel, including administrators, teachers, school psychologists, social workers, family liaisons, and school counselors. Recruitment also took place at parent and community events at the schools, and recruitment materials were provided to interested families. Guardians were able to contact a research team member if they were interested in having their child receive services and participate in the research investigation. The school personnel made initial contact with the guardians to provide information on their referral. Once the guardian was informed, the researcher conducted a prescreening interview to provide details about the TI-SBMHCI before completing initial paperwork (e.g., Parent/Guardian Informed Consent for Research, Client Information, and Consent for Counseling Services).

Screening

The researcher screened the guardians to ensure that the TI-SBMHCI was appropriate to meet the unique needs of their children. Specifically, the researcher confirmed that; (a) the child was a student at one of the Title I elementary schools; (b) the identified child and families were willing to participate in the 10-week counseling intervention; (c) transportation could be provided to and from each scheduled session; (d) scheduled sessions would be attended on a regular basis and two missed sessions would result in termination of services; and (e) the child had experienced at least one traumatic event and met cutoff criteria of endorsing at least one traumatic event indicated on the RI (Pynoos et al., 1998, 2017), they were deemed eligible for the TI-SBMHCI. If the participant did not meet the criteria (did not experience one traumatic event via RI screening), a SBMHCI without a trauma focus was provided, or other mental health service referrals were provided. The researcher collected data at the first counseling session (pre), the fifth counseling session (mid), and the 10th counseling session (post).

Incentives

As noted, measurement and participants' attrition can serve as significant threats to validity (Creswell, 2013). Thus, to mitigate these threats to validity, the researcher provided incentives to improve participation and data collection procedures (Creswell, 2013). Incentives, specifically monetary in nature, increase response rates and retention (Zangeneh et al., 2008). Therefore, the researcher provided a $30 gift card at the conclusion of the 10-week study. The researcher provided snacks and childcare for the duration of the TI-SBMHCI program between the hours of 3:00 pm and 6:00 pm, to encourage increased participation in data collection and improve attendance rates.

Trauma-informed School-based Mental Health Counseling Intervention

Counselor education graduate students enrolled in a supervised clinical practicum conducted all the trauma-informed counseling sessions with the participants. These trauma-informed counseling sessions took place during the school year, once a week after school hours. Hopper and colleagues (2010) define trauma-informed care (TIC) as,

> a strengths-based framework that is grounded in an understanding and responsiveness to the impact of trauma, that emphasizes physical, psychological and emotional safety for both providers and survivors, and that creates opportunities for survivors to rebuild a sense of control and empowerment. (p. 81)

Although, TIC is not a trauma-specific clinical intervention (e.g., trauma-focused cognitive behavioral therapy), TIC principals are incorporated in clinical practice to create trauma-informed treatment (Yeager et al., 2013). Trauma-informed treatment interventions are organized around trauma theory (Greenwald, 2005). Counselors incorporated TIC principals throughout treatment and demonstrated the core conditions of unconditional positive regard, empathy, and genuineness (Rogers, 1957). Counselors also used a number of proven-effective treatment interventions (i.e., motivational interviewing, cognitive-behavioral therapy, parent training, and play therapy) to best assist clients in reaching their goals (Greenwald, 2005). The counselors were instructed to build on a Humanistic Counseling approach. Clinical supervisors instructed and supervised the counselors in this Humanistic approach to ensure that the core conditions of unconditional positive regard, empathy, and genuineness were present throughout the counseling intervention (Rogers, 1957). The clinical supervisors and counselors also worked collaboratively with participants and their caregivers to develop goals for counseling in order to

honor the clients' rights and abilities to determine the direction of counseling (Cain, 2001). Through the TI-SBMHCI, the focus of the counseling sessions included the participants' personal goals through a Humanistic lens using a trauma-informed approach.

The trauma-informed treatment addressed presenting concerns related to the trauma and were practiced under the three pillars of trauma-informed counseling (Bath, 2008). Three fundamental aspects of trauma-informed care create the three pillars: (a) safety, (b) connections, and (c) managing emotions (Bath, 2008). The three pillars build on one another and focus on the child's strengths (Bath, 2008). The purpose of trauma-informed treatment was to facilitate the re-establishment of safety, identify triggers associated with the traumatic event, develop healthy coping skills, and decrease trauma symptomology (Becker et al., 2011).

Clinical supervisors monitored the progress of counselors as it related to the model through live, triadic, and group supervision. In addition, members of the research team served as outside auditors and periodically viewed counseling tapes and filled out a treatment fidelity checklist to assess the consistency of the trauma-informed treatment. Initially, the first pillar was completed between sessions 1-4; counselors assessed for safety within the child's current environment and intervened if necessary (i.e., child abuse). Additionally, counselors created a safe counseling environment with the traumatized child by building rapport (Bath, 2008). Once children felt safe with their therapists, they moved forward in the relationship, addressed their trauma, established trust, and formed healthy attachments with the counselor (Bath, 2008). Safety serves as the initial groundwork for the second pillar, consisting of connections (Bath, 2008). Following the establishment of a positive therapeutic relationship with a child, the counselor implemented the second pillar of connections between sessions 4-7 and taught the

participant social skills (i.e., boundaries) to promote healthy development with caregivers, peers, and authority figures, such as teachers (Osfosky et al., 2015). Finally, counselors moved into the third pillar of trauma-informed care, consisting of managing emotions for the final duration of treatment in sessions 7-10. The third pillar emphasizes emotion self-regulation and impulse control and takes the majority of the time that the individual is in counseling (Bath, 2008). During this period, counselors taught and supported the participants in learning effective ways of managing their emotions and impulses when in threatening or nonthreatening environments (Bloom, 1999). These self-regulation skills were intended to serve as a buffer against future mental health and behavioral issues such as depression, anxiety, dropping out of high school, and delinquent behavior (Alvord & Grados, 2005).

Within Bath's (2008) three-pillar framework, counselors had the flexibility to meet the specific needs of participants while being aware of the child's trauma and how the trauma affected them. The three pillars of trauma-informed care recommend a strengths-based approach, encouraging counselors to utilize the skills a child already possesses when providing for safety, encouraging positive relationships, and teaching emotional regulation (Bath, 2008). According to Overstreet and Mathews (2011), once children feel safe and are able to form healthy relationships and manage their emotions, they are able to regain the power that was lost from the trauma, thereby promoting academic and social-emotional functioning.

Treatment Fidelity

Treatment fidelity was important in this quasi-experimental research design, and the researcher made efforts to maximize treatment fidelity. The counselors who provided the intervention adhered to the specifications of the trauma-informed treatment intervention in order

to alleviate threats to internal validity (Gall et al., 2007). Prior to implementation of the TI-SBMHCI, all counselors attended a half-day training. The researcher provided a training on the definition of trauma and the presentation of trauma symptomology in children. The researcher also provided information regarding background information on the three Title I elementary schools (e.g., racial/ethnic identification, economically disadvantaged student rate, English language learners, etc.). Based on the participants' demographic information, the researcher reviewed cultural considerations when providing treatment. The researcher instructed the counselors on the logistics of the TI-SBMHCI and data collection procedures. Finally, the researcher trained the counselors on the three pillars of trauma-informed care (Bath, 2008) and provided various resources on how to implement this intervention within the setting provided.

Prior to acceptance to complete a practicum in the school setting, counselors were required to have completed a graduate course on counseling children and adolescents and/or the graduate play therapy course to ensure competency in counseling children. Counselors also completed the UCLA PTSD reaction index DSM-5 training prior to seeing clients to ensure that they could properly administer the RI (Pynoos et al., 1998, 2017) to the participants. During implementation of the TI-SBMHCI, counselors were responsible for keeping track of their progress in weekly progress notes, providing evidence that they were adhering to the trauma-informed intervention. The researcher team members served as external auditors by randomly observing counseling sessions to assess the congruence between the services being delivered and the intended TI-SBMHCI (Gall et al., 2007).

Supervision

An appropriately credentialed clinical supervisor trained in trauma-informed care supervised all counseling sessions. The clinical supervision consisted of three aspects: group, live, and triadic supervision. Prior to each trauma-informed counseling session, counselors participated in group supervision with their clinical supervisor at one of the Title I elementary school sites. Group supervision provided the opportunity for counselors to present their cases, demonstrate trauma-informed counseling techniques and strategies, and conceptualize their clients while receiving further feedback from peers. Additionally, all counselors had live supervision during their trauma-informed counseling sessions. Due to the vulnerable population of children from Title I elementary schools who have experienced a traumatic event, live supervision allowed for the clinical supervisor to observe counselors in action and provide immediate feedback if necessary, intervening if client welfare was a concern. Triadic supervision consisted of counselors meeting with their clinical supervisor and one other peer counselor outside of the Title I elementary school setting to process their work, receive feedback, and discuss treatment goals. Through these three aspects of supervision, clinical supervisors provided formative and summative feedback to facilitate the counselors' growth and to ensure that their work aligns with the premises of trauma-informed treatment, specifically the treatment fidelity checklist and the *Counseling Competency Scale-Revised* (CCS-R; Lambie et al., 2018).

Phase Two

The second phase of the investigation utilized a quasi-experimental comparison group pretest posttest research design to compare the treatment group (TI-SBMHCI) and a matched sample control group comprised of those who did not receive a SBMHCI intervention (Glass,

1980). The matched sample control group was created through the statistical procedure of propensity score matching (Rosenbaum & Rubin, 1983) from a convenience sample of children enrolled in Title I elementary schools. This quasi-experimental design was chosen to measure the impact of the independent variable (TI-SBMHCI) on the dependent variables of school data, as measured by attendance, and office discipline referrals (Hair et al., 2006).

Recruitment

The school district provided demographic data for children enrolled in each elementary school. Thus, the researcher created the matched sample control group-using propensity score matching based on covariates that matched with the TI-SBMHCI treatment group; (a) free and reduced lunch status; (b) IEP and/or 504 diagnosis; (c) age; (d) grade; (e); ethnicity/race; and (f) gender.

Setting

The participants were recruited from the current student body of three Title I elementary schools in the Southeastern United States where the counseling sessions also took place. Each school was a magnet school offering a special program such as engineering and technology. The three Title I schools had a high rate of students coming from low-income families and racial/ethnic minority backgrounds. Each school was economically disadvantaged with the majority of students on free and reduced lunch: (a) School 1, 93%; (b) School 2, 85%; and (c) School 3, 92%. Under the state-wide grading system, School 1 had earned a grade of C, had 9% English language learners (ELL), and the students identified with the following ethic/racial groups: Black/African American (51%), Hispanic (23%), and White (21%). School 2 also had

earned a grade of C, had 5% ELL, and the students identified with the following ethic/racial groups: Black/African American (50%), Hispanic (26%), and White (18%). Finally, School 3 had earned a grade of D, had 10% English ELL and the students identified with the following ethic/racial groups: Black/African American (36%), Hispanic (29%), and White (30%). Geographically, all three schools were located within five miles of each other. The presented data were from the 2017-2018 academic year.

Instrumentation

The data collection packet included three measures: (a) the CBCL (Achenbach & Rescola, 2001), (b) the TRF (Achenbach, 1992), and (c) the RI (Pynoos et al., 1998, 2017). These packets were administered at three data collection points during Phase One of the study. The researcher collected the consent and demographic information at the beginning of the first session to serve as baseline data (Gall et al., 2007). The researcher administered the second packet at the end of the fifth session. The researcher distributed the third and final packet following the completion of the tenth session.

Counseling Psychosocial Intake Form

The legal guardians completed the *Counseling Psychosocial Intake Form* (CPIF; Lambie, 2016) at intake. The CPIF collected information related to the demographic, social-emotional, relational, and academic background and functionality of the elementary student-participants, specifically, (a) demographic data (b) presenting problem (i.e., traumatic event), (c) physical health, (d) emotional health, (e) family background, (f) educational history, and (g) peer-relationships. The information collected from the CPIF provided counselors with a baseline of

symptomology to inform them about traumatic events and how to move forward with the trauma-informed intervention.

The Child Behavioral Checklist

The Child Behavior Checklist (CBCL; Achenbach & Rescola, 2001) for children ages 6 to 18 years of age was completed by legal guardians prior to the first session, after the completion of the fifth session, and then again after the completion of the tenth session. The CBCL 6-18 gathers caregivers' self-report assessment of their child's behaviors within the preceding six-month period (Al-Hendawi et al., 2016). The first section of the CBCL requests background information on the child's positive behaviors, academic functioning, and social competence as it relates to peers and family members. The remaining 113 CBCL items comprise a problem behavior checklist that measures three broadband scales; including, internalizing behavior, externalizing behavior, and total problem behavior.

The eight syndrome scales include: (a) anxiety/depression, (b) withdrawal/depression, (c) somatic complaints, (d) social problems, (e) thought problems, (f) attention problems, (g) rule-breaking behavior, and (h) aggressive behavior. These eight syndrome scales are associated with disorders from the DSM-IV-TR such as operational defiant disorder, anxiety, conduct disorder (APA, 2000). The answers to each question are given on a scale of 0 to 2, where 0 = "not true," 1 = "somewhat or sometimes true," and 2 = "very true or often true." The CBCL raw scores are converted into *T*-scores; 50 is average for the youth's age and gender, with a standard deviation of 10 points (Achenbach, 2001). Thus, higher scores indicate greater problems. For each syndrome, internalizing, externalizing, and the total problem scores can be interpreted as falling in the normal *T*-score < 60 and borderline/ clinical range with a *T*-score ≥ 60 (Achenbach &

Rescola, 2001). For the purpose of this study, the researcher examined the internalizing, externalizing, and total problem *T*-scores to assess overall social-emotional functioning from a caregiver's perspective.

Psychometric Features of the CBCL Scores

The CBCL is a widely used instrument to measure competency in age appropriate activities and problem behavior in children (Greenbaurm & Dedrick, 1998). As such, mental health professionals, behavioral specialists, and educators use the CBCL in a variety of settings; including, educational, inpatient psychological service, and juvenile justice settings (Moruzzi et al., 2010). The revised CBCL 6-18 has been translated into approximately 70 languages or dialects (Achenbach & Rescorla, 2001; Al-Hendawi et al., 2016). Evidence of validity and reliability for CBCL scores has been supported through their use in a variety of settings; including mental health services, schools, medical settings, child and family services, public health agencies, child guidance, and training programs (Achenbach, 2009). In addition, the CBCL has been used in over 6,500 published scholarly articles and tested in over 20 societies outside of the United States, including samples from Australia, Asia, the Middle East, and Europe (Dedrick, Tan, & Marfo, 2008; Kariuki et al., 2016).

The Teacher Report Form (TRF)

The *Teacher Report Form* (TRF) for children ages 6 to 18 years of age (Achenbach, 1992) was completed by primary classroom teachers before the first session, after the completion of the fifth session, and then again after the completion of the 10th session. The TRF 6-18 was developed to gather teachers' self-reports of observations of student problem behavior,

perceptions of academic performance, and adaptive functioning within the classroom of their students' behavior (Achenbach, 1992) for the preceding two months. Similar to the CBCL, the first section of the TRF requests background information of academic performance and adjustment, and the remaining 112 TRF items comprise a problem behavior checklist that measures three broad-band scales; including, internalizing behavior, externalizing behavior, and total problem behavior. The eight syndrome scales are identical to the CBCL and include: (a) anxiety/depression, (b) withdrawal/depression, (c) somatic complaints, (d) social problems, (e) thought problems, (f) attention problems, (g) rule-breaking behavior, and (h) aggressive behavior. Again, answers to each question are given on a scale of 0-2, where 0 = "not true," 1 = "somewhat or sometimes true," and 2 = "very true or often true." Like the CBCL, the TRF raw scores are converted into *T*-scores and can be interpreted as falling in the normal *T*-score < 60 and borderline / clinical range with a *T*-score ≥ 60 (Achenbach, 1992). For the purpose of this study, the researcher examined the internalizing, externalizing, and total problem *T*-scores to assess overall social-emotional functioning within the classroom from the teacher's perspective. The TRF and CBCL are complementary to one another and provide a more detailed analysis of the child, as they share similar items (Liu, Cheng, & Leung, 2011).

Psychometric Features of the TRF Scores

There is evidence of validity and reliability of the TRF scores with diverse populations of children and adolescents in Germany, Australia, Canada, Netherlands, and China (Achenbach & Rescorla, 2000). The TRF has demonstrated validity with moderately significant correlations with the CBCL, the *Trauma Symptom Checklist*, and the *Youth Self-Report* (ranging from r = 0.09 - 0.3). The TRF has demonstrated good to excellent internal consistency (ranging from 0.73

to 0.96). Further, in the Netherlands the TRF has shown good reliability ($r = 0.95$) and is considered to be "a valid and reliable screening instrument to assess the global emotional and problem behaviors that are reported by teachers based on their observation of adolescents" (Bean, Mooijaart, & Spinhoven, 2007, p. 53).

School-Based Academic Data

The school district provided data for the participants who completed the 10-week TI-SBMHCI and students who formed the matched sample control group. The school district provided the following school-based academic data: (a) number of days the student attended school, and (b) number of office discipline referrals. The academic data components consist of pre-intervention (the academic semester prior to counseling services) and post-intervention (the academic semester following counseling services).

The University of California Posttraumatic Stress Disorder Reaction Index for the DSM 5

Both legal guardians (caregiver version) and children (child version) completed the *UCLA Posttraumatic Stress Disorder Reaction Index for the DSM-5* for children ages 6 to 18 years of age (RI; Pynoos et al., 1998, 2017) prior to the first session, after the completion of the fifth session, and then again after the completion of the 10th session to gather caregivers' and student-participants' self-reports of present trauma-symptomology. The RI is not intended to be an instrument for diagnosis; however, it provides preliminary DSM-5 diagnostic information and PTSD symptom frequency scores (Pynoos, 1998, 2017). Further, the RI consists of a child and parent version, containing a 27-item scale using a 5-point Likert response rating of; 1 = "none of

the time," 2 = "little of the time," 3 = "some of the time," 4 = "much of the time," and 5 = "most of the time."

The RI child version was administered verbally, thereby enabling the child to assess trauma symptomology experienced, whereas the caregiver version was completed independently. The four RI subscales align with the DSM-5 PTSD categories; (a) intrusion (criterion B, 4 items); (b) avoidance (criterion C, 2 items); (c) negative thoughts (criterion D, 13 items); (d) trauma-related arousal (criterion E, 7 items); and (e) the dissociative type (4 items). A DSM-5 diagnoses is also calculated. For the purpose of this study, the dissociate type was not included in data analysis, as it does not contribute to the total trauma symptomology score. Finally, a final RI composite score was computed based on the summative subscale scores. For the purpose of this study, the researcher examined the RI subscale scores and composite score to assess specific symptomology and the overall trauma symptomology presented by student participants.

Psychometric Features of the RI

Since 1980, there has been a great deal of attention devoted to the development of instruments for assessing PTSD (Mueser et al., 2001), and multiple instruments have been developed. Among these instruments, the RI is unique, as it has a caregiver and child version that permits a more holistic view of trauma symptomology experienced by a child. The RI has demonstrated convergent validity; the DSM-IV version correlates $r = 0.70$ with the *PTSD Module of the Schedule for Affective Disorders and Schizophrenia for School-Age Children* (Epidemiologic version), and $r = 0.82$ in comparison with the *Child and Adolescent Version of the Clinician-administered PTSD Scale*. The RI scores demonstrate evidence of internal consistency reliability across versions. Several researchers have found Cronbach's alpha to fall in

the range of 0.90 (Roussos et al., 2005). Finally, the different versions of the RI test-retest reliability have ranged from good to excellent. Roussos et al. (2005) reported a test-retest reliability coefficient of 0.84 for the DSM-IV version. The factor structure of the RI has been examined with diverse sample; such as, Chinese children who have experienced childhood physical abuse (Chou, Su, Wu, & Chen, 2011), Norwegian children who were exposed to a tsunami (Nygaard, Jensen, & Dyb, 2012), and an ethnic diverse American youth sample who experienced sexual abuse (Wherry, Graves, & Rhodes, 2008).

Data Analysis

The researcher used the Statistical Package for Social Science (SPSS) software package (Version 24) to analyze the data. The dataset for this investigation included one independent variable (time) and multiple continuous dependent variables: (a) internalizing, externalizing and total problem scores per parent report, as measured by CBCL scores (Achenbach & Rescola, 2001); (b) internalizing, externalizing and total problem scores per teacher report, as measured by TRF scores (Achenbach, 1992); (c) trauma symptomology, as measured by RI scores (Pynoos, et al., 1998, 2017); and (d) academic behavior, (as measured by school attendance, and office discipline referrals). Additional demographic variables were collected using a brief psychosocial form, CPIF (Lambie, 2016). The additional demographic variables included participants' (a) age, (b) grade, (c) gender, (d) ethnicity/race, (e) IEP/504 diagnosis and (f) free and reduced lunch status. The researcher cleaned and examined the data to ensure that the following necessary statistical assumptions were met prior to analysis: (a) sphericity, (b) multivariate normality, (c) homogeneity of variance, (d) matrices, and (e) homogeneity of

regression slopes. Additionally, the researcher conducted psychometric analysis on the measurement scales to assess them for internal consistency.

Research Questions

The purpose of this research study was to investigate the effectiveness of a 10-week TI-SBMHCI on Title I elementary school students' trauma-symptomology, academic behavior, and social-emotional functionality that have experienced at least one traumatic event. This investigation examined whether or not a TI-SBMHCI will be effective in decreasing child symptomology related to the four measures (CBCL, TRF, RI-parent/caregiver, and RI- child) over time, decrease the rate of office discipline referrals, improve school attendance. In an effort to contribute to the knowledge base in the fields of counseling and counselor education, this investigation sought to answer the following research questions:

Research Question 1

Do participants' behavior and emotional problem scores, academic behavior, and trauma symptomology change over time as a result of participating in a 10-week TI-SBMHCI, in Title I elementary schools via parent/guardian report scores, as measured by CBCL (Achenbach & Rescorla, 2001); and teacher report scores as measured by TRF (Achenbach, 1992); school-based data, as measured by attendance, and office discipline referrals; and trauma symptomology per parent and child report, as measured by RI (Pynoos et al., 1998, 2017)?

Data Analysis for Research Question 1

In Phase One of the study, the researcher implemented an interrupted single group time-series design. Data were collected at three time points including pre (1st session), mid (following the completion of the 5th session), and post (following the completion of the 10th session) to examine changes in student-participants' (a) behavior and emotional problem scores, through parent report (CBCL), teacher report (TRF); (b) trauma symptomology, as measured by RI parent and child report, and school based-data after participating in a 10-week TI-SBMHCI in their elementary schools (Glass, 1980).

For behavioral and emotional problem scores**,** the researcher used a RM-MANOVA to assess changes in internalizing and externalizing behavior for TRF and CBCL scores over time, as the dependent variables of internalizing and externalizing problem scores were theorized to be related (Achenbach, 2000). In addition, the researcher used a RM-ANOVA to assess total problem composite scores and account for multicollinearity. The independent variable was time, and the dependent variables were internalizing, externalizing, and total problem scores measured by the CBCL and TRF.

For trauma symptomology, data were analyzed using an RM-MANOVA for subscale symptomology, including: (a) intrusion, (b) avoidance, (c) negative thoughts, and (d) trauma-related arousal. An RM-ANOVA was used to assess trauma symptomology over time as measured by the RI total scores (Pynoos et al., 1998, 2017) to account for multicollinearity; and two separate RM-ANOVAs were implemented to assess RI total symptomology scores per both parent and child report. The independent variable was time, and the dependent variables were the subscale and composite trauma symptomology scores.

For school-based data, the researcher analyzed the data using three separate RM-ANOVAs. These were used to assess univariate change in (a) office discipline referral rates, and (b) school attendance, over time following a 10-week TI-SBMHCI.

In Phase One, the researcher implemented RM-MANOVAs to identify a within-subject multivariate effect across time for behavioral and emotional problem scores measured on the CBCL and TRF. Additionally, the researcher implemented an RM-ANOVA for both the CBCL and TRF to account for multicollinearity for total problem scores. The researcher also used RM-ANOVAs to identify a univariate within-subject effect across time on trauma symptomology and school-based data (Hair et al., 2006).

Research Question 2

What is the effect of a 10-week TI-SBMHCI in Title I schools on participants' academic behavior, as measured by attendance, and office discipline referrals, as compared to students who did not receive a 10-week school-based counseling intervention?

Data Analysis for Research Question 2

The researcher chose a quasi-experimental research design with a matched sample using covariates through propensity score matching (PSM). Once the researcher formed the control group, data were collected pre-intervention, during the first session of the experimental group, and post-intervention, following the 10th session period of the experimental group.

In regard to the PSM procedure, PSM attempts to control for differences to make the groups receiving treatment and not-treatment more comparable (Rosenbaum & Rubin, 1983). PSM also verifies that covariates are balanced across treatment and comparison groups in the

matched or weighted sample. PSM is used to reduce selection bias by equating groups based on the covariates or characteristics of participants (Rosenbaum & Rubin, 1983). Thus, the goal of Phase Two was to approximate a random experiment to examine the effectiveness of a TI-SBMHCI (Glass, 1980).

For school-based data, the researcher analyzed the data using three separate RM-ANOVAs to assess univariate change in (a) office discipline referral rates, and (b) attendance, to identify with-in subject effects over time for school-based data for the control group, and between-subject effects over time between two groups (control group and experimental group). Thus, the researcher analyzed the data using RM-ANOVAs to identify a univariate within-between subject effect across time on school-based data for individuals receiving TI-SBMHCI and the control group (Hair et al., 2006).

Ethical Considerations

The researcher took steps to ensure that this investigation was conducted in an ethical manner. The researcher (a) obtained approval from the IRB to conduct the study and for all recruitment assessments; (b) provided a detailed counseling and research informed consent to families, including limits to confidentiality; (c) removed all identifying information from research packets and maintained data collection materials in a locked cabinet behind a locked door; and (d) expressed to participants involved that this study was completely voluntary and participants had the right to withdraw from the study and receive an appropriate referral. Due to the involvement in this study of a vulnerable group of children who had experienced trauma, there were ethical considerations specific to this population. Thus, supervisors did not permit

counselors-in-training to practice outside of their competency and training involving trauma-informed care, (e.g., having the counselors undergo exposure therapy).

Limitations of the Study

The researcher has delineated a number of the limitations of this investigation in the threats to validity section, noting limitations in areas such as population, research design, instrumentation, and treatment. Specifically, PSM procedure only controls for observed variables; therefore, any hidden bias due to latent variables may have remained after matching. Another issue was that PSM requires large samples with substantial overlap between the treatment and control group, and this was not obtainable within this study's sample. Furthermore, although results from ANOVA and MANOVA can support intervention, they do not necessarily verify causation. In addition, the intervention was counseling that was tailored to the individual needs of the participants through a trauma-informed lens; thus, generalizability of the treatment was questionable (e.g., treatment fidelity). Lastly, the limited control in the counselors' backgrounds presented a potential limitation for the study.

Summary

In this chapter, the researcher presented the methods and procedures that were implemented for the investigation examining the effectiveness of a TI-SBMHCI on students enrolled in three Title I elementary schools. The impact of a TI-SBMHCI on participants' social-emotional functionality per parent report (CBCL) and teacher report (TRF), trauma symptomology per child and parent report (RI), and academic behavior as measured by office discipline referrals, and attendance rates were detailed. The chapter provides a detailed

description of the research design in each phase of this investigation (i.e., time series design, quasi-experimental approach with nonrandom assignment control group, PSM) and methods used to conduct the study. Threats to validity in addition to mechanisms that were implemented to mitigate these threats have been considered. Also described in the chapter were relevant aspects of data collection including, population, sample, recruitment, incentives, and screening. The researcher reviewed the instrumentation used in the study, presenting a rationale for selection of instruments and a discussion of their corresponding psychometric properties. The primary characteristics of the intervention were introduced. The research questions that guided the study were restated and the data analysis procedures used to respond to each question were explained. Finally, issues related to ethical treatment and limitations of the study were illuminated and clarified.

CHAPTER 4
RESULTS

Introduction

This chapter contains the results of the analysis per research question that guided the investigation. The primary aim of this study was to examine the influence of a trauma-informed school-based mental health counseling intervention (TI-SBMHCI) on students enrolled in three Title I elementary schools. Specifically, this study was conducted to examine the impact of a TI-SBMHCI on participants' social-emotional functionality per parent/guardian report as measured by the CBCL (Achenbach & Rescola, 2001) and teacher report, as measured by the TRF (Achenbach, 1992), trauma symptomology per child and parent/guardian report, as measured by the RI (Pynoos et al., 1998, 2017), and academic behavior, as measured by school office discipline referrals and school attendance. In the first phase of the study, the researcher utilized a repeated measures multivariate analysis of variance (RM-MANOVA) to measure changes in the participants' subscale scores over time across pretest (Session 1), mid (Session 5), and posttest (Session 10). Further, the researcher utilized a repeated measures analysis of variance (RM-ANOVA) to measure changes in participants' total scores over time across pretest (session one), mid (session five) and posttest (session ten), in addition to changes in academic behavior across pretest (semester prior to TI-SBMHCI) and posttest (semester following TI-SBMHCI).

In the second phase of the study, the researcher utilized a quasi-experimental comparison group pretest posttest research design with a matched sample, based on covariates to compare the following two groups of participants: (a) those participants who received a 10-week TI-SBMHCI and (b) those participants who did not receive any SBMHCI from the University and school district partnership, created through propensity score matching (PSM; Rosenbaum & Rubin,

1983). Specifically, the researcher utilized RM-ANOVA between-subject design to compare the two groups in changes in academic behavior across pretest (semester prior to TI-SBMHCI) and posttest (semester following TI-SBMHCI).

This chapter reviews the following areas of the study: (a) research design; (b) sampling and data collection methods; (c) participants' descriptive data; (d) internal consistency reliability of the instruments' scores; (e) reliability of intervention; (f) preliminary data analysis procedures and assumption testing; (g) data analyses for the research questions; and (h) results of the research questions. The first research question investigated if participants' behavior and emotional problem scores, academic behavior, and trauma symptomology scores changed over time as a result of participating in a 10-week TI-SBMHCI. Next, the researcher examined the effect of the 10-week TI-SBMHCI in Title I schools on participants' academic behavior, as compared to students who did not receive a 10-week school-based counseling intervention using PSM.

Research Design

This study utilized a time series quasi-experimental research methodology. Experimental designs are considered the most vigorous research method of determining the relationship between the independent and dependent variables (Gall et al., 2006). However, due to the ethical concern of withholding mental health counseling opportunities from elementary school children who have experienced trauma, the researcher utilized a one group quasi-experimental design for the first phase of the research study. Further, the researcher formed a control group using PSM in order to answer the second research question. The inclusion of multiple measurement points (pretest, mid, and posttest), the addition of the PSM control group, and the presence of several

intervention sites (three Title I elementary schools) increased the methodological precision of this quasi-experimental design (Gall et al., 2006).

Characteristics for inclusion to participate in the investigation included: (a) participants were active students in the Southeastern School District; (b) the identified children were willing to participate in the mental health counseling services; (c) transportation could be provided to and from each scheduled session; (d) scheduled sessions would be attended on a regular basis (participants missing more than two sessions were discontinued from services); and (e) participants had experienced one traumatic experience, as measured by RI (Pynoos et al., 1998, 2017). The researcher facilitated recruitment of the elementary school participants through school personnel, including administrators, teachers, school psychologists, social workers, family liaisons, and school counselors. The researcher also recruited participants by attending parent and community events at the schools, providing recruitment materials to interested families. Parents/guardians and their children participated in a prescreening interview to provide details about the TI-SBMHCI prior to completing initial paperwork. The prescreening interview consisted of Parent/Guardian Informed Consent for Research, and Consent for Counseling Services forms.

Data Collection

The researcher received Institutional Review Board (IRB) approval prior to data collection (Appendix B). Data collection took place between August 2018 and May 2019. The researcher collected data from participants at three-time points: (a) pre-prior to Session 1; (b) mid-following Session 5; and (c) post-following Session 10. Assessments took approximately 25 minutes to complete for legal guardians and 10 minutes to complete for child participants. The

researcher gave each participant a research identification number to which only the research team and counselors had access (Gall et al., 2007). The researcher stored all physical data in a locked office in a locked filing cabinet. In addition, digital data were stored on a password-protected computer in a password-protected file to which only the research team and primary research investigator had access.

Sampling

The target population for the investigation was comprised of students enrolled in multiple Title I elementary schools in a southeast state. If children met cutoff criteria of endorsing one traumatic event at baseline, they were eligible for trauma informed counseling services. If the potential clients did not meet criteria for trauma informed counseling (i.e., did not endorse one traumatic event via RI), the partnership provided those students with a SBMHCI without a trauma-focus. The researcher administered the data collection packet at pre-intervention (Session 1), mid-intervention (Session 5), and post-intervention (following Session 10).

Response Rates

A total of 61 individuals inquired about participating in the study by signed parental informed consents, and a total of 56 students were eligible for trauma-informed counseling and experienced one traumatic event, as measured by Pynoos et al. (1998, 2017). The five students who did not experience a traumatic event at baseline received a free SBMHCI counseling without a trauma-focus. From the 56 participants at pretest, 13 participants did not complete the 10-week trauma intervention due to: (a) conflicting extracurricular activities; (b) family conflicts; (c) illness; or (d) unknown reasons. The researcher removed all participants who did

not complete the 10-week TI-SBMHCI to account for missing data and more accurately describe the sample (Osborne, 2013). In summary, 56 participants completed the first assessment packet; and 50 of these same students participated in mid-point data collection, reflecting an 89.3% retention rate from pretest to mid. Further, of the same students, 43 students participated in post-test data collection, reflecting an 86% retention rate from mid to posttest and a total 76.8% retention rate between pretest and posttest. Thus, a total of 43 participants completed the 10-session TI-SBMHCI. Following data cleaning, three participants were removed, leaving 40 participants included in data analysis, which did meet the recommended G*Power analysis (n = 25).

Summary of Intervention

The intervention consisted of 10, 50-minute mental health counseling sessions based on *the three pillars of trauma-informed care* (Bath, 2008). The researcher made efforts to ensure that counselors addressed participants presenting concerns and provided counselors with appropriate training in the trauma-informed counseling intervention (Bath, 2008). Counselor education graduate students enrolled in a supervised practicum conducted all the counseling sessions for the participants. The counseling sessions took place during the academic school year, once a week after school hours. The three pillars of trauma-informed care include: (a) safety (Sessions 1-4); (b) connections (Sessions 5-7); and (c) managing emotions (Sessions 8-10). The counselors tailored the service intervention to address the individual participants presenting concerns, while practicing under the three pillars of trauma-informed care (Bath, 2008).

To enhance treatment fidelity, counselors uploaded a progress note each week which identified how the counseling session met the goal of the trauma-informed pillar. Additionally, the research team members served as external auditors in randomly observing counseling sessions to assess the congruence between the services and the intended TI-SBMHCI (Gall et al., 2007). Specifically, research team members completed the TI-SBMHCI checklist at each phase of treatment and the *Counseling Competency Scale-Revised* (CCS-R; Lambie et al., 2018) at midterm and final, to account for test retest reliability and to ensure counselors were staying true to the intervention (See Appendix A). The research team included two doctoral students in the counselor education program, three faculty supervisors, and the associate dean of the college who serves as the lead supervisor of the partnership program. Further, all counselors completed a counseling children and adolescents graduate course and/or a graduate play therapy course, ensuring their competency in providing therapeutic services to children. Three trained and appropriately credentialed clinical supervisors supervised the counseling section at each school site. Finally, counselors completed the UCLA PTSD reaction index DSM-5 training prior to seeing clients to properly administer RI (Pynoos et al., 1998, 2017) to children participants.

The researcher randomly selected six counselors (20% of counselors), and members of the research team audited their recorded counseling sessions at each phase of treatment. In addition, the research team completed a midterm and final CCS-R (Lambie et al., 2018) focusing on counseling skills and therapeutic conditions for selected counselors. Due to the scales consisting of less than 10 items, the researcher calculated the mean inter-item correlation value to assess the relationship among the items, with .48 to .76 suggesting a strong relationship (Pallant, 2016). The SBMHCI checklist exhibited a strong relationship across the three-time

points (r_{pre} = .42; r_{mid} = .57; r_{post} = .56). Further, the CCS-R scores also showed a strong relationship between midterm and final ($r_{midterm}$ = .62; r_{final} = .69). As a result, the correlations between the external auditors' rating identified adequate test retest reliability in assessing the counselors staying true to the intervention at each phase and exhibiting appropriate counseling skills.

Internal Consistency Reliability of Data Collection Instruments' Scores

Data collection were collected at three time points including (a) the *Child Behavioral Checklist* (CBCL; Achenbach & Rescola, 2001); (b) the *Teacher Report Form* (TRF; Achenbach, 1992); (c) the *UCLA Posttraumatic Stress Disorder Reaction Index for the DSM-5* (RI-parent/caregiver; Pynoos et al., 1998, 2017); and (d) the *UCLA Posttraumatic Stress Disorder Reaction Index for the DSM-5* (RI-child; Pynoos et al., 1998, 2017). Demographic information was collected at pretest, prior to the first session, alongside the screening if a child was eligible for the TI-SBMHCI, as measured by RI (Pynoos et al., 1998, 2017). Internal consistency values above .7 are considered acceptable; whereas, values above .8 are preferable (Pallant, 2016).

The CBCL scores (Achenbach & Rescola, 2001) exhibited strong internal consistency reliability across the three-time points (α_{pre} = .94; α_{mid} = .96; α_{post} = .93). Similarly, the TRF scores (Achenbach, 1992) displayed strong internal consistency reliability across all three-time points (α_{pre} = .89; α_{mid} = .90; α_{post} = .89). Further, the RI-parent (Pynoos et al., 1998, 2017) maintained sound consistency across all three-time points (α_{pre} = .80; $\alpha_{mid\ t}$= .80; α_{post} = .82). Finally, the RI-child (Pynoos et al., 1998, 2017) had acceptable to good levels of internal

consistency across the three-time points. (α_{pre} = .78; α_{mid} = .82; α_{post} = .81). Table 1 presents the Cronbach's Alpha values at pretest, mid, and posttest for each of the four instruments.

Table 1

Chronbach's Alpha: Reliability of Instruments

	Pretest *n* = 43	Mid *n* = 41	Posttest *n* = 39
CBCL	0.94 (good) *n* = 43	0.96 (good) *n* = 43	0.93 (good) *n* = 38
TRF	0.89 (good) *n* = 43	0.90 (good) *n* = 41	0.89 (good) *n* = 41
RI-parent	0.80 (good) *n* = 43	0.80 (good) *n* = 43	0.82 (good) *n* = 43
RI-child	0.78 (acceptable)	0.82 (good)	0.81 (good)

Demographic Statistics

A total of 43 elementary school student participants (76.8%) were retained throughout the 10-week intervention and 40 elementary school student participants were included in data analysis. As a whole, participants were all students between the ages of 5 and 11 years of age (*M* = 7.93, *SD* = 1.62, *MDN* = 8, *Mode* = 7). Participants reported being in kindergarten (*n* = 3, 7.5%), first (*n* = 6, 15.0%), second (*n* = 9; 22.5%), third (*n* = 5; 12.5%), fourth (*n* = 10; 25.0%), and fifth (*n* = 7; 17.5%) grades. The participants' most common traumatic experiences included (a) bereavement (35.0%), (b) separation (25.0%), and (c) domestic violence (12.0%). Table 2 presents the trauma history profile as measured by the RI (Pynoos et al., 1998, 2017) at baseline.

Table 2

Participants' Trauma History Profile

Traumatic Event	*n*	%
Illness/Medical Trauma	1	2.5
Serious Accidental Injury	1	2.5
Domestic Violence	5	12.5
Disaster	2	5.0
Neglect	3	7.5
Sexual Assault	1	2.5
Bereavement	14	35.0
Separation	10	25.0
Bullying	3	7.5

Table 3 presents the participants' additional demographic data. More participants identified as male (62.5%) than female (37.5%). Regarding ethnicity, 18 participants identified as Black/African American (45.0%), 11 (27.5%) students identified as Hispanic, 9 (22.5%) students identified as Caucasian/White, and 2 (5.0%) students identified as multi-racial. The researcher used participants' eligibility for a free or reduced lunch as a metric of family income level. At the time of the study, a student from a household with an income at or below 130% and 185% of the poverty income threshold was eligible for free or reduced lunch (USDA, 2019). For the present study, 38 (95%) participants reported qualifying for a free or reduced lunch. Further, 18 (45%) participants had an active IEP. In regard to IEP diagnosis, six participants (15%) received services for Specific Learning Disability (SLD); four participants (10%) received services for Autism Spectrum Disorder (ASD); five participants (12.5%) received services for Giftedness; two participants (5%) received services for Emotional and Behavior Disorder (EBD); and one student (2.5%) received services for Speech and Language Pathology (SLP).

Table 3

Descriptive Statistics of Participants

Demographics	*n*	%
Gender		
Male	25	62.5%
Female	15	37.5%
Race/Ethnicity		
African American	18	45.0%
Caucasian	9	22.5%
Hispanic	11	27.5%
Multiracial	2	5.0%
Free/Reduced Lunch		
Yes	38	95.0%
No	2	5.0%
IEP		
Yes	18	45.0%
No	22	55.0%
IEP Diagnosis		
SLD	6	15.0%
ASD	4	10.0%
Gifted	5	12.5%
EBD	2	5.0%
SLP	1	2.5%

Data Screening and Statistical Assumptions for Repeated Measures MANOVA

To investigate the research questions, the researcher used RM-MANOVA as the primary data analysis procedure. Prior to data analysis, the researcher cleaned the data, examined the dataset for missing values, and tested the statistical assumptions associated with RM-MANOVA. In the following section, the researcher presents the results of these analyses.

Missing Values Analysis

The researcher conducted a Missing Value Analysis in SPSS to determine the percentage and distribution of missing data. All missing data were randomly distributed across all observations ($p > .05$), with less than 2.089% of data missing overall. Thus, missing data were determined as missing completely at random (MCAR; Tabachnick & Fidell, 2013). For the 2.089% of missing values, the researcher replaced missing data using mean imputation on an item-by-item basis with the average input for a given item replacing the missing value (Osborne, 13). The researcher imputed averages for missing values to decrease variability between response and allow the assessment for otherwise valuable participant responses (Pallant, 2016).

Statistical Assumption Testing for RM-MANOVA

Statistical assumption testing helps to ensure that researchers are not drawing false conclusions from their analyses. The researcher checked seven statistical assumptions for the RM-MANOVA prior to data analysis. If an assumption was not met, the researcher made corrective procedures and re-tested the assumptions (Pallant, 2016).

Assumption One: All dependent variables must be measured at continuous levels (Osborne, 2013). The dependent values for the present study were sum scores derived from instrument scales with continuous scores (i.e., CBCL, TRF, and the *UCLA PTSD Reaction Index*) in addition to academic behavior scores (office discipline referrals, school attendance). Therefore, assumption one was met.

Assumption Two: Independent variables should consist of two or more categorical, related groups and groups are related when participant data are measured at each time point (Osborne, 2013). In the present study, the independent variable was time and the investigation

measured participants at pretest, mid and posttest; thus, the groups were considered to be related. As a result, assumption two was met.

Assumption Three: A RM-MANOVA requires more cases than number of dependent variables (Pallant, 2016). Specifically, Tabachnick and Fidell (2013) recommended that the sample size must be at least 10 plus the number of dependent variables to obtain appropriate power. For the present study, there were 43 participants and 8 dependent variables, surpassing both Pallant (2016) and Tabachnick and Fidell's (2013) recommendations to obtain appropriate power.

Assumption Four: MANOVA is sensitive to outliers; as a result, the researcher checked for each dependent variable and multivariate outliers (Pallant, 2016). To examine the presence of multivariate outliers, the researcher evaluated Mahalanobis Distances at each time point and assessed if these values were statistically significant at $p < 0.001$ (Tabachnick & Fidell, 2007). The researcher found no multivariate outliers; therefore, assumption four was met. To examine the presence of univariate outliers, the researcher examined histograms and boxplots (Pallant, 2016). There was a total of 45 outlier scores within the dataset. At pretest: (a) RI-child ($n = 6$); (b) RI-parent ($n = 3$); and (c) CBCL ($n = 3$). At mid: (a) RI-child ($n = 6$); (b) RI-parent ($n = 7$), and (c) TRF ($n = 4$). At posttest: (a) RI- child ($n = 4$); (b) RI-parent ($n = 10$); (c) CBCL ($n = 2$); and (d) TRF ($n = 3$). First, the researcher examined each score to determine if the outlier was due to human error and corrected three data input errors. Next, the researcher examined the raw data assessments to assess if the outlier scores reported were purposeful or from intentional or motivated misreporting such as fatigue and social desirability (Osborne, 2013). After examining patterns within the data set and the raw data, the researcher identified three cases that contributed

to 24 of the remaining 42 outliers within the dataset. These three cases showed evidence of invalid responses due to fatigue or social desirability (Osborne, 2013). The researcher removed these three cases from the data analysis and ran the RM-MANOVA analysis on each instrument to see if these three cases altered the results. In running the analysis examining the TRF, CBCL, RI-child, RI-parent/caregiver over three-time points, the results were altered, and the cases were removed (Pallant, 2016). With these three cases removed, a total of 40 participants remained in the sample, providing sufficient power for the RM-MANOVA, which met the recommended G*Power analysis (n = 25) with a power of .80 and a mean effect size of .25.

Following the removal of the three cases, the researcher examined histograms and boxplots to further identify univariate outliers. Results identified a total of 18 univariate outliers in regard to instrument data: (a) RI-child (n = 1); (b) RI-parent (n = 1); and (c) CBCL (n = 2). At mid: (a) RI-parent (n = 2); and (c) CBCL (n = 2). At posttest: (a) RI- child (n = 3); (b) RI-parent (n = 4); (c) CBCL (n = 1); and (d) TRF (n = 1). Further, one of the eighteen outliers (posttest for RI-parent) had a z-score of a magnitude of 3.29 or higher; therefore, the researcher replaced this outlier with an imputed mean score (Tabachnick & Fidell, 2011). The researcher reviewed the remaining 17 univariate outliers, as they had z-scores of less than 3.29 and appeared to be valid responses when the researcher examined the raw data (Osborne, 2013). In regard to academic behavior there were seven univariate outliers: (a) office discipline referral pretest (n = 3); (b) school attendance pretest (n = 2); and (c) school attendance posttest (n = 2). Academic behavior outliers were replaced with mean imputation scores. Following deletion and review of cases and univariate outliers, the researcher examined the presence of multivariate outliers, evaluating Mahalanobis Distances at each time point and assessed if these values were statistically

significant at $p < 0.001$ (Tabachnick & Fidell, 2007). Again, the researcher found no multivariate outliers and this assumption was satisfied.

Assumption Five: There is multivariate normality within the data (Osborne, 2013). First, the researcher first visually assessed histograms of participants' total score data at each time-point and visual inspection yielded no cause for concern. Academic behavior histograms showed evidence of nonnormality and skewness; however, the majority of school-aged children do not miss days of school or receive office discipline referrals (January, Lambert, Epstein, Spooner, & Gebreselassie, 2018). Further, the researcher evaluated values for skewness and kurtosis to ensure univariate normality. All values except for RI-child at posttest fell within the acceptable range for assuming univariate normality in regard to skewness and kurtosis; however, MANOVA's are resilient to minor variations in normality (Osborne, 2013). The researcher then examined multivariate normality through normal Q-Q plots. Visual inspection of the Q-Q plots resulted in apparent normality for all four of the main scales at each timepoint subscales. Tables 3, 4, 5, and 6 presents skewness and kurtosis values and Figures 1, 2, 3, 4, 5, and 6 present histograms and Q-Q plots.

Assumption Six: There is a linear relationship between each pair of dependent variables for each group of the independent variable (Osborne, 2013). The researcher created scatterplot matrix for each related group of the independent variable to analyze linearity. The plots did show minor error of evidence of non-linearity; however, MANOVA's are robust and quite resilient to minor variations in linearity (Osborne, 2013). The researcher addressed correlations in Assumption Seven, as scatterplots do not give definite answers to the relationship of variables (Pallant, 2016). Scatterplot matrices are presented in Figures 7, 8, and 9.

Assumption Seven: Dependent values should be moderately correlated; thus, the researcher ran correlations between each assessment at pre-test to assess multicollinearity and singularity. No correlations violated the threshold value < .80 (Pallant, 2016). Further, tolerance and variance inflation factor (VIF) were suitable, as no tolerance value was less than .1 and no VIF exceeded 10; therefore, assumption seven was met. Table 7 presents correlations for the four instruments.

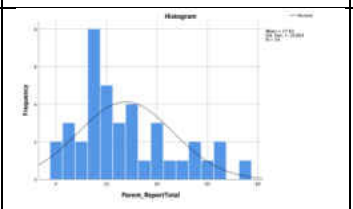
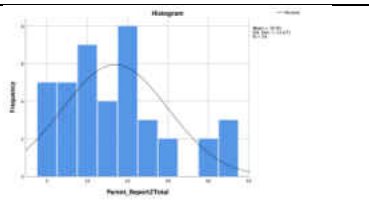
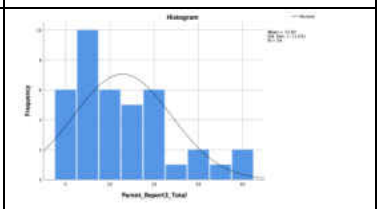
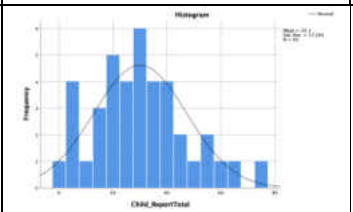
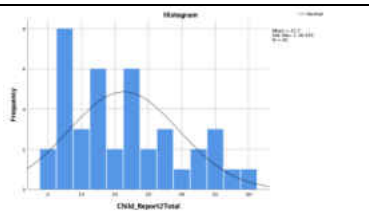
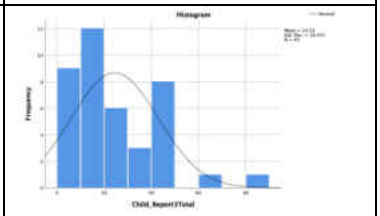
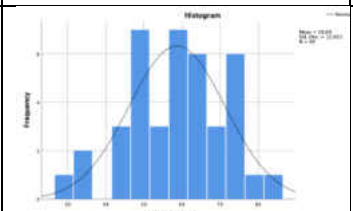
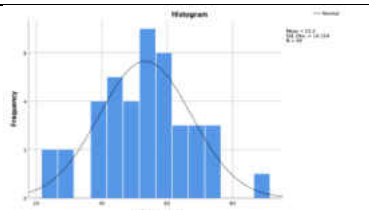
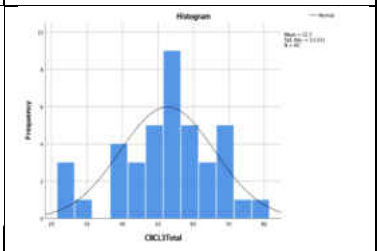
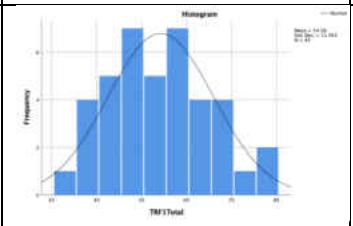
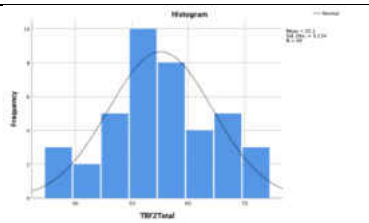
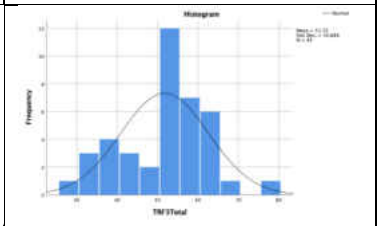
	Pretest	Mid	Posttest
RI-Parent			
RI-Child			
CBCL			
TRF			

Figure 1. Histograms for Instrument Data

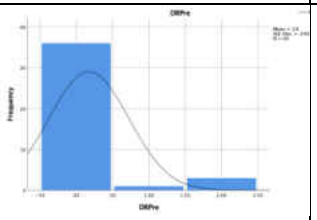
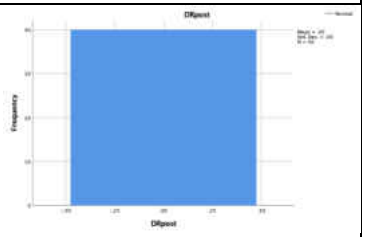
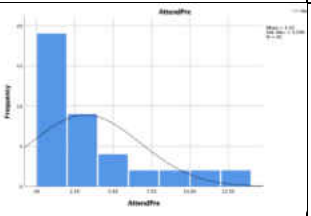
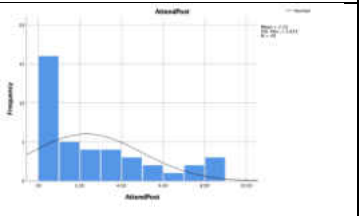
	Pretest	Posttest
Office Discipline Referrals		
School Attendance		

Figure 2. Histograms for Academic Data

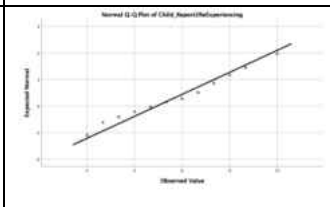
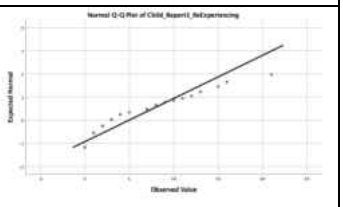
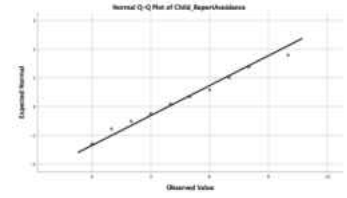
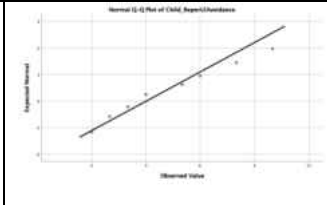
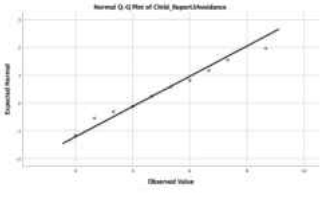
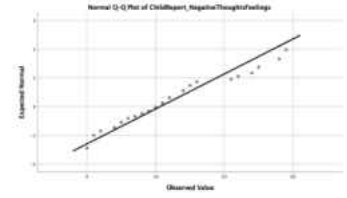
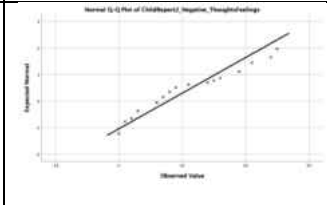
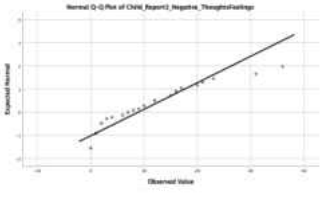
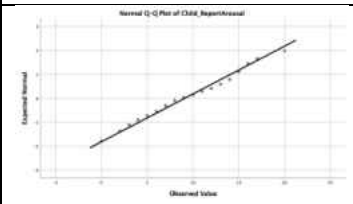
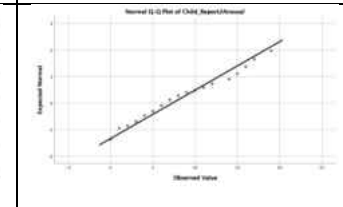
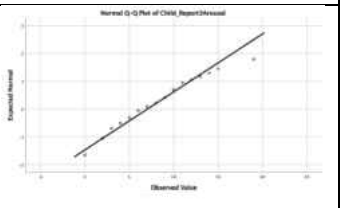
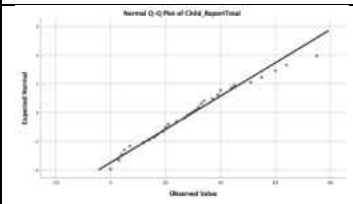
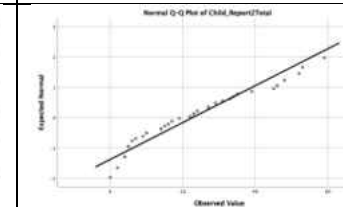
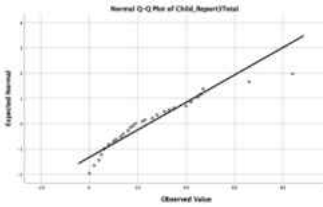
Scale	Pretest	Mid	Posttest
Re-experiencing			
Avoidance			
Negative Thoughts			
Arousal			
Total			

Figure 3. Q-Q Plots RI-Child

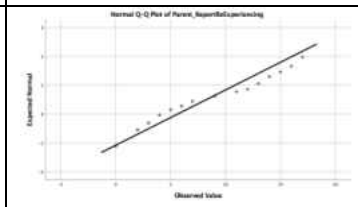
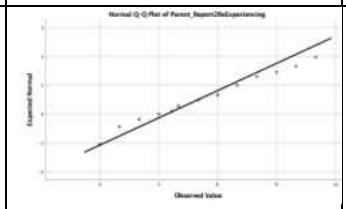
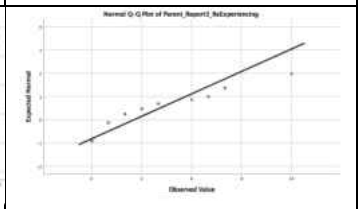
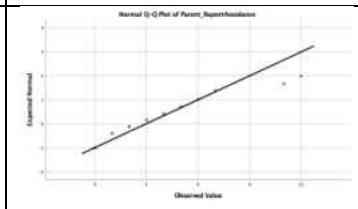
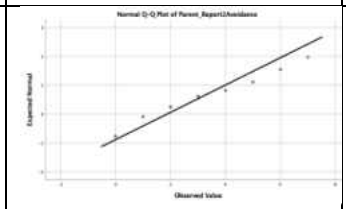
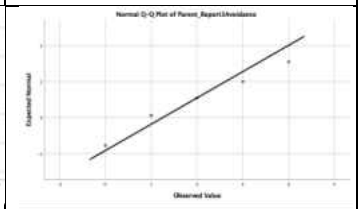
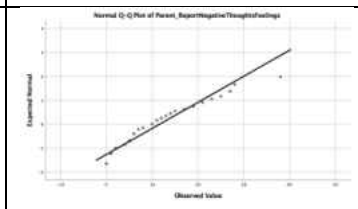
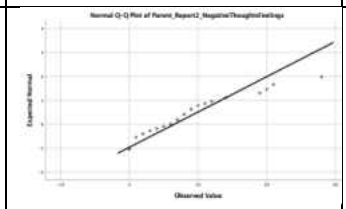
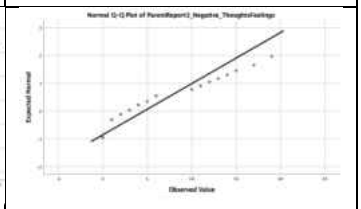
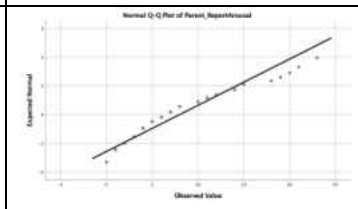
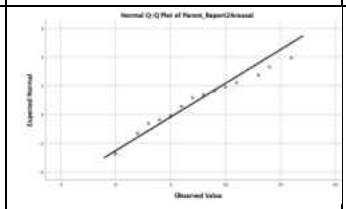
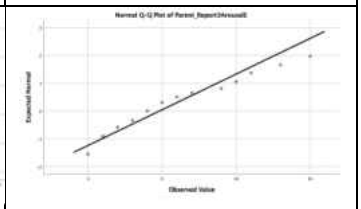
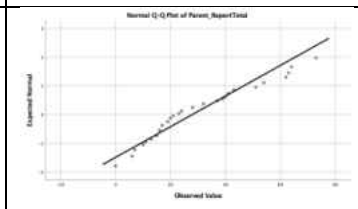
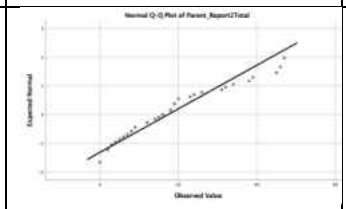
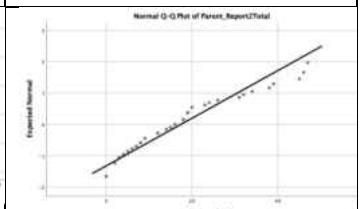
Scale	Pretest	Mid	Posttest
Re-experiencing			
Avoidance			
Negative Thoughts			
Arousal			
Total			

Figure 4. Q-Q Plots RI-Parent/Caregiver

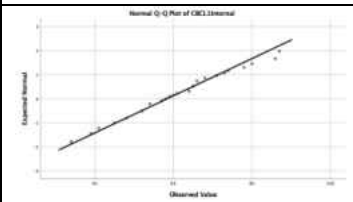
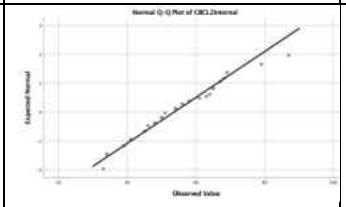
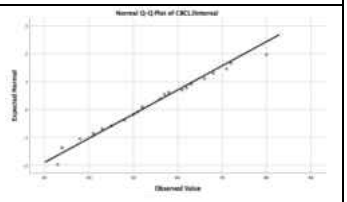
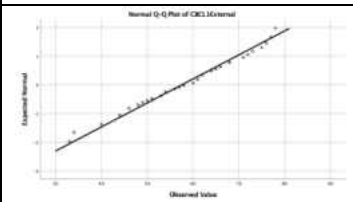
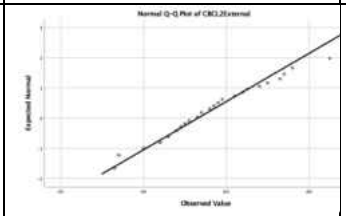
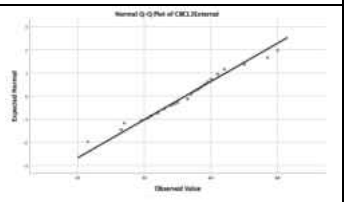
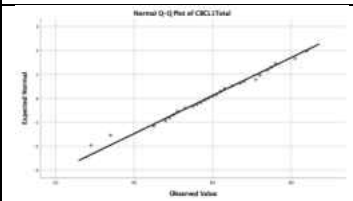
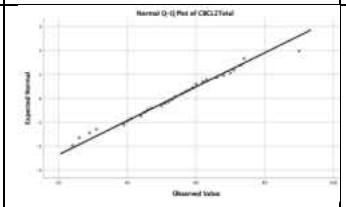
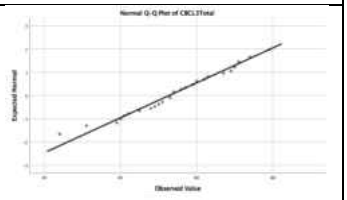
Scale	Pretest	Mid	Posttest
Internalizing			
Externalizing			
Total			

Figure 5. Q-Q Plots CBCL

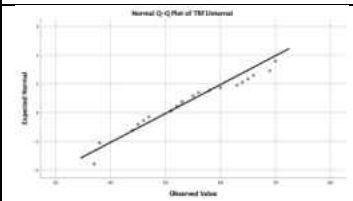
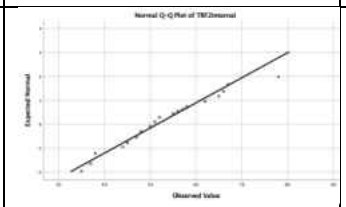
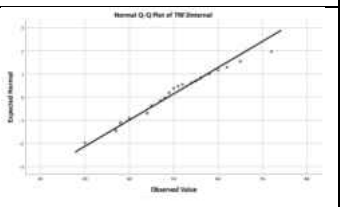
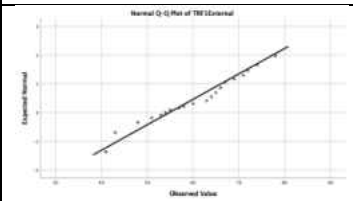
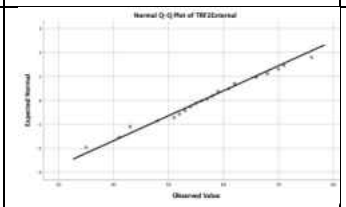
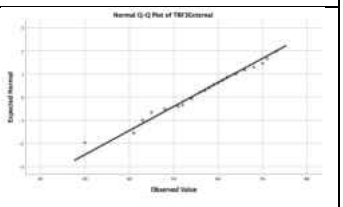
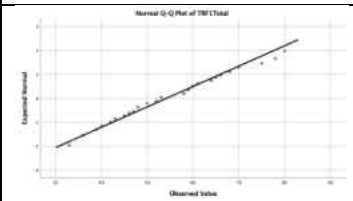
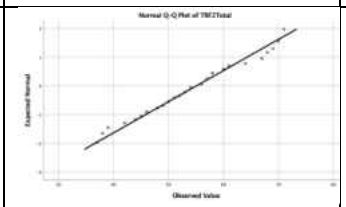
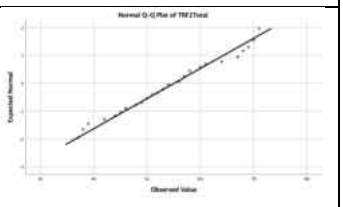
Scale	Pretest	Mid	Posttest
Internalizing			
Externalizing			
Total			

Figure 6. Q-Q Plots TRF

Table 4

Skewness for Instrument Data

Data	Pretest	Mid	Posttest
CBCL	-0.24	0.07	-0.40
TRF	0.28	-0.02	-0.21
RI-parent	0.73	0.76	0.84
RI-child	0.48	0.56	1.12

Table 5

Skewness for Academic Data

Descriptor	Pretest	Posttest
Office Discipline Referrals	3.027	0.000
School Attendance	1.317	0.941

Table 6

Kurtosis for Instrument Data

Data	Pretest	Mid	Posttest
CBCL	-0.07	0.25	0.08
TRF	-0.52	-0.65	0.09
RI-parent	-0.28	-0.15	-0.25
RI-child	0.13	-0.72	1.51

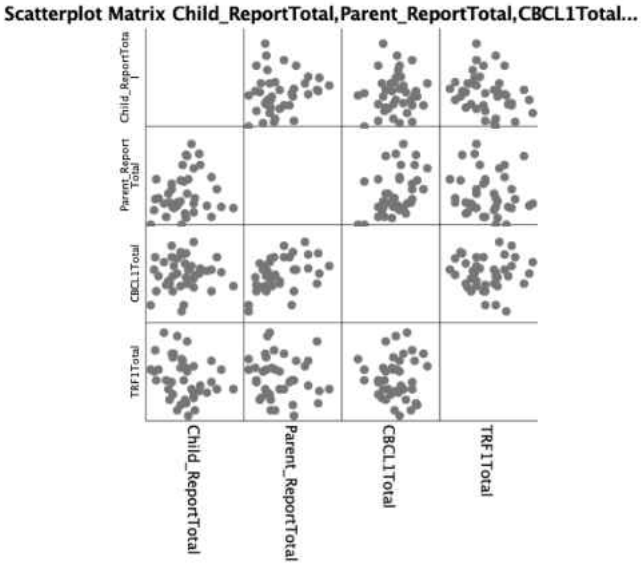


Figure 7. Pretest Scatterplot Matrices

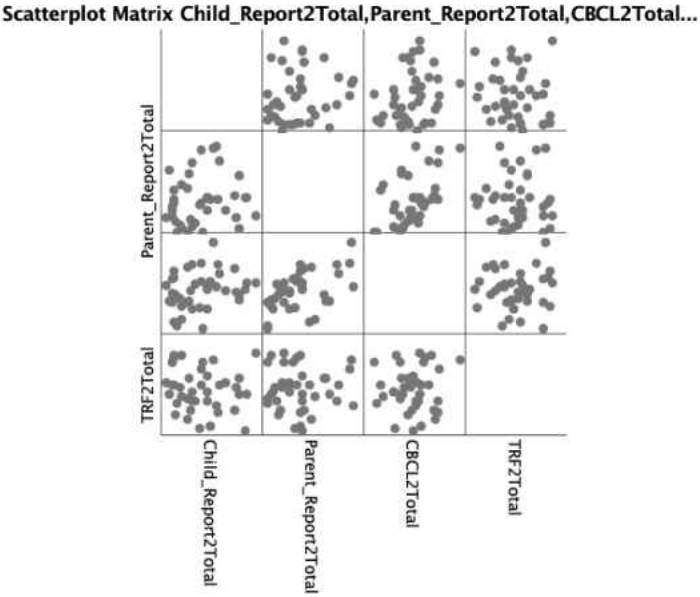


Figure 8. Midpoint Scatterplot Matrices

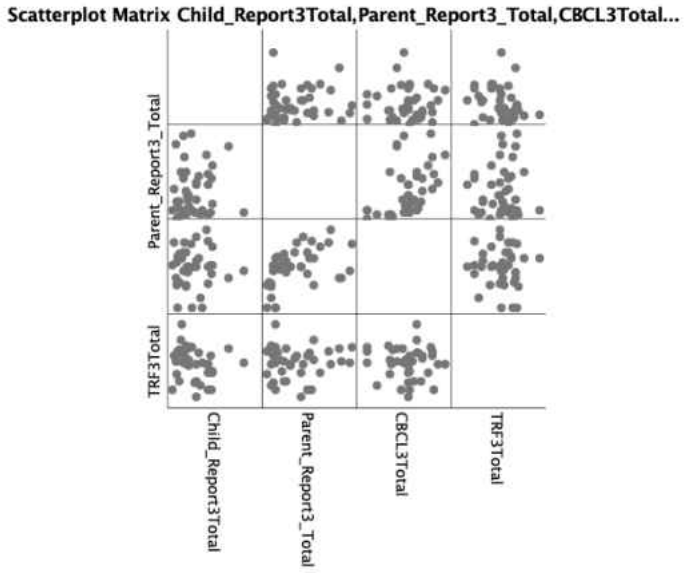


Figure 9. Posttest Scatterplot Matrices

Table 7

Correlations Among Instruments

Pearson Correlation	RI-Child	RI-Parent	CBCL	TRF
RI-Child	1	0.169	0.058	-0.263
RI-Parent	0.169	1	0.429	-0.096
CBCL	0.058	0.429	1	-0.002
TRF	-0.263	-0.096	-0.002	1

Research Question 1

Do participants' behavior and emotional problem scores, academic behavior, and trauma symptomology change over time as a result of participating in a 10-week TI-SBMHCI, in Title I elementary schools via parent/guardian report scores as measured by CBCL (Achenbach, 2001) and teacher report scores as measured by TRF (Achenbach, 1992); school-based data as measured by attendance, and discipline referrals, and trauma symptomology as measured by RI (Pynoos et al., 1998, 2017)?

To respond to Research Question 1, the researcher implemented a RM-MANOVA to determine whether there was a decrease in subscale scores on pretest, mid, and posttest ($N = 40$) measures of mental trauma symptomology (RI- parent and RI-child) and social emotional behavioral problems (CBCL and TRF). Further, the researcher implemented a RM-ANOVA to determine if there were significant decreases in total problem scores over time on the same measures to account for multicollinearity. Finally, the researcher utilized a RM-ANOVA to determine if there were significant improvements in academic behaviors (i.e., office discipline referrals and school attendance) over time.

Trauma Symptomology

Child Report

Results of the RM-MANOVA identified that there was not a within-subject multivariate effect across three time-points; however, the analysis of univariate tests indicated that participants' re-experiencing, and arousal scores exhibited significant decreases in scores over time. Specifically, the results identified that there was not a multivariate within-subjects effect across time, Wilks' $\lambda = .712$, $F_{(1, 40)} = 1.62$, $p = .159$; partial $\eta^2 = .288$, with observed power,

.603. Univariate tests identified that RI-child re-experiencing scores exhibited significant decreases over time, $F_{(1, 40)} = 3.770$, $p = .034$, with moderate effects (partial $\eta^2 = .088$; Cohen, 1998), and observed power, .624. Further, RI-child arousal scores significantly decreased over time, $F_{(1, 40)} = 3.66$, $p = .034$, with moderate effects (partial $\eta^2 = .086$; Cohen, 1998), and observed power, .630. Subscale scores of avoidance ($F_{(1, 40)} = 1.125$, $p = .329$; partial $\eta^2 = .028$, and weak power, .238) and negative thoughts ($F_{(1, 40)} = 1.916$, $p = .160$; partial $\eta^2 = .047$, and observed power, .359) did not exhibit significant changes over time. Furthermore, results of the RM-ANOVA indicated that the participants' trauma symptomology total problem scores exhibited significant decreases over time, $F_{(1, 40)} = 3.355$, $p = .047$, with a moderate effect size (partial $\eta^2 = .08$), and observed power, .60. Although re-experiencing and arousal were the only two subscale mean scores that significantly decreased over time, negative thoughts and avoidance mean scores decreased from pretest to mid. In addition, the majority of trauma mean scores decreased from pretest to mid. Aside from arousal, all remaining subscales and total trauma symptomology mean scores increased from mid to posttest. Table 8 presents results of these analysis statistics and the measures of central tendency, the RI-child scores.

Parent Report

With respect to parent scores of trauma symptomology, the results of the RM-MANOVA identified that there was a within-subject multivariate effect across time, Wilks' $\lambda = .454$, $F_{(1, 40)} = 4.808$, $p = .001$; partial $\eta^2 = .288$, with strong observed power, .990 (Cohen, 1998). Furthermore, the analysis of univariate tests exhibited significant decrease in all four subscale scores over time: (a) re-experiencing symptomology, $F_{(1, 40)} = 13.071$, $p < .001$, with a strong effect size ($\eta^2 = .251$), and strong observed power, .981; (b) avoidance symptomology, $F_{(1, 40)} =$

8.587, p =002, with a strong effect size (η^2 = .180), and strong observed power, .911; (c) negative thoughts symptomology, $F_{(1, 40)} = 17.975$, $p < .001$, with a strong effect size (η^2 = .315), and strong observed power, .998; and (d) arousal symptomology $F_{(1, 40)} = 9.295$, $p = .001$, with a strong effect size (η^2 = .192), and strong observed power, .940. Furthermore, results of the RM-ANOVA indicated that the participants' trauma symptomology total problem scores also exhibited significant decrease in scores over time, $F_{(1, 40)} = 22.797$, $p < .001$, with a strong effect size (partial η^2 = .369), and strong observed power, 1.00. In contrast to child report symptomology, mean scores mainly decreased from pretest to mid, all trauma symptomology mean scores per parent report decreased from pretest to mid and exhibited further decreased from mid to posttest. Table 9 present the results of the analysis statistics and measures of central tendency, and the RI-parent/caregiver scores.

Table 8

RI-Child Statistics

Descriptor	Pre-test *M* *(SD, range)*	Mid-test	Post-test	$F_{(1, 40)}$	*p*	Partial η²	Observed power
Re-experiencing	6.68 (5.12, 0-18)	4.40 (3.615, 0-12)	4.95 (5.368, 0-21)	3.770	.034	.088	.624
Avoidance	3.90 (2.88, 0-10)	3.03 (2.703, 0-12)	3.35 (2.760, 0-10)	1.125	.329	.028	.238
Negative Thoughts	10.68 (8.223, 0-29)	7.80 (7.493, 0-25)	8.85 (8.752, 0-36)	1.916	.160	.042	.359
Arousal	9.13 (5.009, 0-20)	7.33 (5.474, 0-19)	7.05 (4.473, 0-19)	3.66	.034	.086	.630
Total	30.10 (17.28, 0-75)	22.70, (16.435, 0-59)	24.53 (18.431, 0-84)	3.355	.047	.080	.600

Table 9

RI-Parent/Caregiver Statistics

Descriptor	Pre-test *M* *(SD, range)*	Mid-test	Post-test	$F_{(1, 40)}$	*p*	Partial η^2	Observed power
Re-experiencing	5.65 (5.221, 0-17)	3.42 (3.184, 0-11)	2.53 (3.113, 0-12)	13.071	.001	.251	.981
Avoidance	3.00 (3.021, 0-12)	1.88 (2.115, 0-12)	1.25 (1.373, 0-4)	8.587	.002	.180	.911
Negative Thoughts	11.65 (9.189, 0-38)	6.58 (6.786, 0-28)	4.65 (4.438, 0-19)	17.975	.001	.315	.998
Arousal	8.00 (6.218, 0-23)	5.38 (4.265, 0-16)	4.83 (3.895, 0-15)	9.295	.001	.192	.640
Total	27.95 (18.745, 0-73)	17.38, (13.181, 0-47)	13.43 (11.437, 0-40)	22.797	.001	.369	1.000

Social-Emotional Problem Scores

Parent Report

Results of the RM-MANOVA identified a within-subject multivariate effect across time, and the analysis of univariate tests indicated that participants' CBCL internalizing and externalizing scores exhibited significant decrease in scores over time. Specifically, the results identified a multivariate within-subjects effect across time, Wilks' $\lambda = 6.88$, $F_{(1, 40)} = 4.078$, $p = .008$; partial $\eta^2 = .312$, with strong observed power, .874. Univariate tests identified that CBCL externalizing problem scores exhibited significant decrease over time, $F_{(1, 40)} = 7.405$, $p = .001$, with a strong effect size (partial $\eta^2 = .160$), and strong observed power, .932. Further, CBCL internalizing problem scores exhibited significant decrease over time, $F_{(1, 40)} = 12.039$, $p < .001$, with a strong effect size (partial $\eta^2 = .236$), and strong observed power, .981. Furthermore,

results of the RM-ANOVA indicated that the participants' CBCL total problem scores exhibited significant decrease over time, $F_{(1, 40)} = 10.418$, $p < .001$, with a large effect size (partial $\eta^2 = .211$), and strong observed power, .979. CBCL internalizing and total problem mean scores exhibited decrease from pretest to mid and exhibited further decrease from mid to posttest. CBCL externalizing mean scores exhibited a decrease from pretest ($M = 57.58$) to mid ($M = 53.18$) but stayed consistent between mid to posttest ($M = 53.30$).

Teacher Report

With respect to teacher report, the results of the RM-MANOVA identified that there was not a within-subject multivariate effect across time, Wilks' $\lambda = .812$, $F_{(1, 40)} = 2.084$, $p = .103$, $\eta^2 = .032$, with observed power, .562. Furthermore, the analysis of univariate tests indicated that there was no significant decrease in TRF internalizing scores, $F_{(1, 40)} = 1.961$, $p = .150$, $\eta^2 = .048$, with observed power, .385. In addition, the TRF externalizing scores did not exhibit significant decreases over time, $F_{(1, 40)} = 1.784$, $p = .183$, partial $\eta^2 = .044$, with observed power, .321. However, results of the RM-ANOVA indicated that the participants' TRF total problem scores did exhibit significant decreases in scores over time, $F_{(1, 40)} = 3.835$, $p = .033$, with a moderate effect size (partial $\eta^2 = .090$), and observed power, .628. In regard to teacher report, mean scores on internalizing, externalizing, and total problems all increased from pretest to mid; however, subscales and total scores decreased from mid to posttest. Total problem mean scores decreased from pre ($M = 54.99$) to mid ($M = 53.30$) and exhibited further decreases from mid to posttest ($M = 52.79$), explaining why there was a significant change in total problem scores over time. Tables 10 and 11 present the analysis statistics for the measures of central tendency for the TRF and CBCL scores.

Table 10

Child Behavior Checklist Data Statistics

Descriptor	Pre-test *M* *(SD, range)*	Mid-test	Post-test	$F_{(1, 40)}$	*p*	Partial η^2	Observed power
Internalizing	58.48 (12.963, 34-87)	53.63 (12.588, 33-87)	51.93 (11.557, 33-80)	12.039	.001	.236	.981
Externalizing	57.58 (11.968, 33-78)	53.18 (12.545, 33-85)	53.30 (12.132, 23-80)	7.405	.001	.160	.932
Total	54.99 (13.98, 34-80)	53.30 (14.104, 24-90)	52.79 (13.331, 24-79)	10.418	.001	.221	.979

Table 11

Teacher Report Form Data Statistics

Descriptor	Pre-test *M* *(SD, range)*	Mid-test	Post-test	$F_{(1, 40)}$	*p*	Partial η^2	Observed power
Internalizing	50.33 (9.960, 37-70)	51.55 (9.538, 35-78)	48.75 (8.828, 30-72)	1.961	.150	.048	.385
Externalizing	54.83 (11.295, 41-78)	56.25 (9.596, 35-71)	53.93 (9.630, 30-73)	1.784	.183	.044	.321
Total	54.28 (11.763, 33-80)	55.10 (9.234, 37-71)	51.73 (10.889, 28-79)	3.835	.033	.090	.628

Academic Behavior

Results of the RM-ANOVA identified that attendance did not significantly decrease over time, $F_{(1, 40)} = 3.392$, $p = .073$, partial $\eta^2 = .080$, with observed power, .435. Further, the mean number of school absences rate decreased from pretest ($M = 3.12$) to posttest ($M = 2.32$). Further, results from the RM-ANOVA identified that office discipline referrals did exhibit a significant decrease change over time $F_{(1, 40)} = 4.057$, $p = .05$, with a moderate effect size (partial $\eta^2 = .094$) and observed power, .502. As a result, participants' school attendance did not significantly decrease over time; however, participants' office discipline referral rate significantly decreased from pretest (semester prior to TI-SBMHCI) and posttest (semester following TI-SBMHCI). Table 12 presents the analysis statistics and descriptive data for office discipline referrals and school attendance.

Table 12

Academic Behavior Data Statistics

Descriptor	Pre-test *M* *(SD, range)*	Post-test	$F_{(1, 40)}$	*p*	Partial η^2	Observed power
Office Discipline Referrals	.1750 (.54948, 0-2)	0 (0, 0-0)	4.057	.05	.094	.502
School Attendance	3.199 (5.091, 0-13)	2.316 (2.316, 0-8)	3.392	.073	.080	.435

Research Question 2

What is the effect of a 10-week TI-SBMHCI in Title I schools on participants' academic behavior, as measured by attendance, and discipline referrals, as compared to students who did not receive a 10-week school-based counseling intervention using propensity score matching?

The second phase of the study used a quasi-experimental comparison group pretest-posttest research design with a matched sample control group, based on covariates to answer the second research question. The covariates to match the groups included participants' (a) free and reduced lunch status, (b) IEP diagnosis (c) age, (d) grade, (e) ethnicity/race, and (f) gender. The covariates were chosen due to the access of demographic data through the school partnership as well as previous research supported the chosen covariates as predictors to school attendance and office discipline referrals rates (January et al., 2018; Mcloughlin & Noltemyer, 2010). The matched sample control group was created through PSM (Rosenbaum & Rubin, 1983) from a convenience sample (Hair et al., 2006; Glass, 1980) to measure the impact of the independent variable (TI-SBMHCI) on the dependent variables of school data (attendance, discipline referrals).

Propensity Score Matching

PSM is a statistical technique that can be used in situations where there is a "group of treated individuals and a group of untreated individuals" (Caliendo & Kopeinig, 2008, p. 31). In this study, the non-equivalent groups included a treatment group of those who received the TI-SBMHCI and a control group of those who did not receive a SBMHCI. The control group was created based on the period of the implementation of the TI-SBMHCI in Session 1 and posttest following the completion of Session 10. Students to represent the control group were drawn from

the three Title I elementary schools that the intervention was implemented (N = 2,666). In addition, 200 students were randomly selected from a neighboring Title I school to further represent the school district and randomization (Bai & Clarke, 2019). This matched control group sample (N = 2,866) was intended to represent elementary school students from Title I elementary schools in a Southeast State. PSM was used to create a match of individuals who received the TI-SBMHCI and individuals who did not receive a SBMHCI for the academic year of fall 2018-spring 2019 time period based on covariates (age, gender, grade, ethnicity, IEP diagnosis, and free and reduced lunch status). Then, academic behavior (office discipline referrals, school attendance) were compared using an RM-ANOVA. Effect size was used to examine the magnitude of the differences.

The researcher utilized Thoemmes (2012) SPSS 25 tool PSM to calculate propensity scores using the greedy method and to apply 1:1 matching without replacement with a recommended caliper of 0.02 to remove 90% of the bias (Bai & Clarke, 2019; Rubin & Thomas, 1996). A caliper is a researcher-specified maximum distance allowed for creating matches and including a caliper increases the quality of matches by including only matches that are within a specified difference (Bai & Clark, 2019). Following SPSS.25 PSM, a control group (N = 40) was created to match the treatment group (N = 40). Propensity score means were found to be 0.017 for intervention group (SD = 0.007) and 0.016 for the PSM control group (SD = 0.006). These similar means indicated that the difference of the mean propensity scores of the two groups was within the recommended limit of 0.5 standard deviation (Rubin, 2001). The ratio of the propensity score variances in the two groups was 1, which is the optimal ratio (Rubin & Thomas, 1996). Final examination of the matching using an independent sample t-test showed that there

were no significant differences between the intervention group and control group on any of the covariates included in the model. Table 13 presents the descriptive statistics of the intervention group and matched control group on all covariate data.

Table 13

Treatment and Control Group Covariate Statistics

	Treatment		Control	
Covariates	*M*	*SD*	*M*	*SD*
IEP diagnosis	0.88	1.200	1.220	2.770
Age	9.12	1.790	10.11	1.210
Grade	2.85	1.580	2.990	1.071
Race/Ethnicity	1.90	0.810	2.100	0.893
Lunch	0.90	0.304	0.970	0.158
Gender	0.60	0.496	0.650	0.483

Academic Behavior: Results of the RM-ANOVA between-subject analysis identified that there was not a between-subject effect among the treatment and control group for school absences, $F_{(1, 80)} = 2.076$, $p = .154$, partial $\eta^2 = .026$, with observed power, .296. Further, both the treatment and control group's mean school absence rate decreased. Conversely, results from the RM-ANOVA between-subject analysis identified that there was a between-subject effect among the treatment and control group concerning office discipline referrals $F_{(1, 80)} = 4.271$, $p = .042$, with a small effect size (partial $\eta^2 = .052$), and observed power, .532. Specifically, individuals in the treatment group exhibited a greater decrease in office discipline referrals than individuals in the matched control group. Table 14 presents the analysis statistics and descriptive data for office discipline referrals and school attendance.

Table 14

Academic Behavior Descriptive Statistics

	Treatment		*Control*	
Academic Data	*M*	*SD*	*M*	*SD*
School Attendance Pre	3.98	5.091	5.68	5.366
School Attendance Post	2.83	3.558	3.50	2.651
Discipline Referral Pre	0.18	0.549	0.53	1.552
Discipline Referral Post	0.00	0.000	0.52	1.176

Summary

In Chapter 4, the researcher presented detailed results for the statistical analyses conducted. The primary findings included: (a) significant decrease in re-experiencing, arousal and total trauma symptomology per child report over time; (b) significant decrease in re-experiencing, avoidance, negative thoughts, arousal and total trauma symptomology per parent report over time; (c) significant decrease in internalizing and total problem behavior per parent report over time; (d) significant decrease in total problem behavior per teacher report over time; and (e) significant decrease in office discipline referrals over time and no significant decrease in school absences over time. Further examination including PSM control group analysis revealed a significant difference in office discipline referrals over time. Specifically, individuals in the treatment group had a more significant decrease in office discipline referrals over time than individuals in the matched control group. However, there were no significant differences in the treatment group and control group for school attendance and neither groups exhibited significant decreases in school absences over time. Chapter 5 provides a discussion of these results

including implications for counseling and counselor education, limitations of the study, and future directions for research.

CHAPTER 5
DISCUSSION

Introduction

Chapter 5 contains a synopsis of the present study and discussion of the results. This chapter expands on the results presented in Chapter 4 and compares and contrasts the results to findings of prior researchers reviewed in Chapter 2. Moreover, chapter 5 presents the results from this investigation within the context of the literature and provides implications for the fields of counseling and counselor education. Limitations of the study are discussed, and recommendations for future research are provided.

Overview

One in five elementary aged children suffer from a mental health disorder, and 80% of mental health disorders begin in childhood; however, up to 75% of these children do not receive appropriate mental health services (Capp, 2015; National Institute of Mental Health [NIMH], 2016). In addition, over 50% of children experience at least one traumatic event by the age of 17, with children from low-income homes frequently experiencing multiple traumatic events throughout childhood (Briggs-Gowan et al., 2012; Osofsky et al., 2015). Specifically, economic hardship is the most common factor in reported childhood trauma, due to risk factors such as parental incarceration, substance abuse, or unemployment (Bruce & Waelde, 2008). These risk factors may lead to traumatic events, including homelessness, violence, and food insecurity (The National Survey of Children's Health, 2012). Further, ethnic minority youth are 26.5% more likely to experience trauma compared to their ethnic majority peers (Overstreet & Mathews, 2011). Exposure to a traumatic event may have serious psychological (e.g., depression, anxiety,

suicidality), physiological (e.g., abnormal brain development), and academic consequences (e.g., high school dropout), leading to severe mental health disorders, and delinquent behavior (Osofsky et al., 2015). Thus, early intervention to address behavioral and emotional issues derived from trauma is significant in mitigating possible mental health disorders, and future delinquent behavior that may lead to incarceration (Bruce & Waelde, 2008). Although trauma is more prevalent for children who live in low-income communities, this population is less likely to receive adequate mental health counseling services, increasing the risk for children's cycle of chronic trauma to persist from generation to generation (Larson et al., 2017).

School-based mental health counseling interventions (SBMHCIs) are often free and accessible; thus, families from low-income communities may utilize these services over alternative community agencies (Powers et al., 2013). However, limitations within SBMHCI research include: (a) SBMHCIs are mainly psychoeducational programs facilitated by teachers and school staff; (b) studies have included small sample sizes; (c) studies lack a control group; and (d) studies are primarily with high school student populations (Farahmand et al., 2011). Additionally, school-based services provided to address childhood trauma have lacked empirical evidence in providing an individualized TI-SBMHCI, as trauma-based services have mainly been provided group settings (Martin et al., 2017). Thus, there is necessity for both a school-based intervention that mitigates barriers (e.g., lack of financial resources, stigma, access) for low-income youth to receive services, in addition to an individualized trauma-informed treatment to address childhood trauma (Osfosky et al., 2015). Consequently, due to barriers in receiving services and the prevalence of trauma with youth from low-income communities, a TI-SBMHCI appears to be well suited for the needs of the target population of children enrolled in Title I

elementary schools (Overstreet & Mathews, 2011). No studies were found that were focused on investigating the effect of an individual TI-SBMHCI on participants' trauma-symptomology, social-emotional functioning, and academic behavior scores. Thus, a trauma-informed counseling approach was selected for the present study, and counselors-in-training conducted the intervention. This study utilized a trauma-informed treatment approach which offered the opportunity for counselors-in-training to acquire counseling skills, to practice under their chosen theoretical orientation, and inform and organize their interventions around trauma theory (Greenwald, 2005).

Summary of the Study

The purpose of this study was to investigate the effectiveness of a 10-week TI-SBMHCI on participants' trauma-symptomology, academic behavior, and social-emotional functionality scores from multiple Title I elementary schools who have experienced a traumatic event. Specifically, the researcher sought to understand whether elementary school students who participated in a TI-SBMHCI would experience a decrease in: (a) internalizing, externalizing, and total problem behaviors per parent and teacher report; (b) trauma-symptomology per parent and child report; (c) office discipline referrals; and (d) school absences. In addition to the effect of the overall intervention, this investigation examined if participants would show greater improvement in academic behavior in comparison to students who did not receive a SBMHCI through the creation of a matched sample control group.

Data Collection

Prior to data collection and the beginning of the study, the researcher secured permission from the Institutional Review Board (IRB) approval (Appendix B). Data collection took place between the fall 2018 and spring 2019 semesters. Participants in the treatment group received a total of 10 TI-SBMHCI sessions, with sessions occurring weekly after school hours. All participants, teachers, and legal guardians completed assessments (i.e., CBCL, TRF, RI-parent, RI-child) at three time points during each semester, including: (a) initial session (prior to completing the first session); (b) midpoint session (following the completion of the fifth session); and (c) final session (following the completion of the tenth session). Further, academic behavior data was collected for the academic semester prior to the TI-SBMHCI and the academic semester following the TI-SBMHCI. All counselors administered the child assessments at the beginning of their scheduled sessions (i.e., first 10 minutes) to mitigate any influence of the TI-SBMHCI on their selected responses. Further, assessments took approximately 25 minutes for guardians and teachers to complete at each data collection point. All participants received gift cards totaling $30.00 gift card after completing the 10-week TI-SBMHCI, with a $10.00 gift card amount after each data collection point (i.e., 1st, 5th, and 10th session).

Participants

Participants included students enrolled in Title I elementary schools in a Southeastern state. The recruitment of potential participants was facilitated through school personnel referrals. In addition, interested families were prompted to reach out to a member of the research team to complete a screening call. Following recruitment, a total of 61 students with signed parental informed consents inquired about participating in the study, and 56 students were eligible for

trauma-informed counseling. There was an 76% retention rate, as 13 participants did not complete the 10-week trauma intervention. Reasoning behind participants not completing the full 10-weeks of the intervention were attributed to personal conflicts, scheduling issues, or unstated reasons. Thus, the researcher removed those participants, leaving a total of 43 participants who completed the 10-week intervention. This high retention rate was consistent with other trauma-informed school-based interventions. The Cognitive Behavioral Intervention for Trauma in the Schools (CBITS; Stein et al., 2003) had a 97% completion rate in contrast to a 12% completion rate for a trauma-specific treatment (TF-CBT), further promoting the accessibility and mitigation of barriers of implementing TI-SBMHCIs (Jaycox et al., 2010). Following data cleaning, three participants were removed, and forty participants remained for the final sample included in data analysis. Further information regarding participants' ($N = 40$) demographic data (e.g., race/ethnicity, grade, age, gender) is provided in demographic data. Regarding academic behavior, there was complete data (i.e., school attendance rates and office discipline referrals) for the treatment group ($N = 40$) and the PSM matched sample control group ($N = 40$).

Following data cleaning, a total of 40 elementary school student participants received a 10-week TI-SBMHCI intervention, with an additional 40 students placed in a matched sample control group comprised through PSM. Incorporating a control group can enhance internal validity; however, the majority of research studies examining SBMHCI and trauma-informed school-based interventions have lacked the utilization of control groups (Greenwald, 2003; Montañez et al., 2015; Langely et al., 2015; Santiago et al., 2018), exhibiting strength in the present investigations research design. Additionally, sample sizes for studies investigating SBMHCI have varied, including sample sizes ranging from 243 (Tolan et al., 2004) to 2 (Meany-

Walen, Teeling, Artley, Vignovich, 2016). However, the SBMHCI's with larger sample sizes were universal psychoeducational programs (e.g., N = 1,589; Komro et al., 2006) opposed to targeted clinical interventions with the largest sample size consisting of (N = 235; Farhamand et al., 2011; Hanlon et al., 2002). Although the present investigation began with 56 participants, 13 participants did not complete the 10-week intervention. Further, the only two school-based interventions with a trauma-focus (Bounce Back and CBITS) provided to elementary aged students consisted of 10-sessions, the interventions include family sessions, group sessions, and teacher sessions (Stein et al., 2003). Kataoka and colleagues (2003) note that the family, group and teacher sessions within CBITS hold families accountable for attending their scheduled sessions. Thus, attrition in the current study may have been attributed to the length of the individualized intervention, not including families, as well as challenging schedules and outside stressors of families living in low-income communities. However, the time period was selected to ensure each pillar within the *Three Pillars of Trauma Informed Care* (Bath, 2008) were addressed within the individualized trauma-focused counseling intervention.

The age of participants from the current study ranged from 5 to 11 years (M = 7.93, SD = 1.62), and participant grades included: (a) kindergarten (n = 3, 7.5%); (b) first (n = 6, 15.0%); (c) second (n = 9; 22.5%); (d) third (n = 5; 12.5%); (e) fourth (n = 10; 25.0%), and (f) fifth (n = 7; 17.5%) grades. More participants identified as male (62.5%) than female (37.5%), and the participants' most common traumatic experiences included (a) bereavement (35.0%), (b) separation (25.0%), and (c) domestic violence (12.0%), as measured by the RI (Pynoos et al., 1998, 2017) at baseline. In regard to Title I elementary schools located in the United states, the National Center for Education Statistics (NCES, 2018) reported similar findings for gender (male

59%; female 41%). Further, almost all participants reported qualifying for free or reduced lunch (95%); although the majority is consistent with NCES's 2018 report stating that over 75% of students that attend Title I schools receive free or reduced lunch services, there was a 20% difference.

In reference to ethnicity, in the present study 18 participants identified as Black/African American (45.0%); 11 (27.5%) students identified as Hispanic; 9 (22.5%) students identified as Caucasian/White; and 2 (5.0%) students identified as multi-racial. Therefore, the majority of the sample identified as an ethnic minority (77.5%), which is similar to students enrolled in Title I elementary schools across the United States, as the majority of students (58%) identify as Hispanic or Black/African American (NCES, 2018). Although the majority of students identified as an ethnic minority, the current sample had approximately 20% more participants identifying as Hispanic or Black/African American as compared to the NCES 2018 report. Further, according to the NCES's 2018 report of Title I elementary school students in the United States, 21% identify as Black/African American, 37% identify as Hispanic, 3% identify as multiracial, and 33% identify as White/Caucasian. The multiracial background of the current participants aligns with the percentages identified in the NCES (2018) report. However, in the present study, the majority of participants identified as Black/African American (45%), with percentages much higher than in the NCES report; whereas, White/Caucasian participants made up only 22.5% of the sample as compared to 37% of the national sample. Further, Hispanic youth make up the majority of students in Title I elementary schools (37%), yet only 27.5% of the present study sample.

The differences in race/ethnicity of students in Title I elementary schools and the sample in the present study may be attributed to the trauma-focus of the intervention, location, and the unique features of the schools where the intervention was implemented. Specifically, ethnic minority children are 26.5 times more likely to experience a traumatic event in childhood as compared to ethnic majority children (Overstreet & Mathews, 2011). Thus, biases within referrals from school personnel and screening for trauma exposure may have contributed to higher ethnic minority sample within the investigation. Further, the sample recruited from the three Title I elementary schools were in a specific community and may have had unique demographic characteristics. Although differences in ethnicities between the sample in the present study and the population of Title I elementary students impact generalizability of the results, the inclusion of ethnic minority children (Black/African American and Hispanic) is beneficial. Specifically, children of racial/ethnic minority decent are more likely to exhibit trauma and less likely to receive appropriate counseling services (Overstreet & Mathews, 2011), contributing to the literature. Additionally, almost half of the sample (n = 18, 45%) had an active IEP, which is much higher than the national average of special education services provided to elementary students, 17.5% (NCES, 2018). Although, Title I elementary schools fall under "every student succeeds act" (Department of Education, 2018), which is intended to improve the academic achievement for students of low-income families, and racial/ethnic minority students are more likely to receive an IEP the higher prevalence of active IEP's is unique within the current sample may impact the generalizability of the results in comparison to other elementary school children.

Due to the variability in the sample in terms of race/ethnicity, grade, gender, age, and IEP status, it was difficult to compare related SBMHCI studies. However, Langley and colleagues (2015) implemented a school-based intervention with a trauma focus (Bounce Back) in four Title I elementary schools in Los Angeles County with 82% of students identifying as a racial/ethnic minority, and results were similar, as students exhibited improvement in PTSD symptomology following the intervention. Further, in previous research, school-based services with diverse samples of racial-ethnic minority children from low-income communities have been examined. Specifically, Farahmand and colleagues (2011) examined school-based mental health counseling programs with urban youth, with over 75% participants in the total sample identifying as Black/African American or Latino/Hispanic. Of these samples, however, race/ethnicity did not show a significant difference in effect size as a moderator. This majority percentage of racial/ethnic minority demographic data was consistent with the majority of participants (77.5%) included in the present study. Also, according to the meta-analysis conducted by Farahmand and colleagues, the majority of SBMHCI research has taken place in high school settings (67%); thus, implications for future research included focus on early intervention with elementary-aged children. Furthermore, minimal SBMHCI research has examined the impact of services on individuals with IEP diagnoses or unique disabilities (Kelchner, Perleoni, & Lambie, 2019). Although SBMHCI research has varied in size, purpose, and design, there are similarities that helped to support the sample in the present study to represent youth from low-income communities (95% free and reduced lunch) and identification of racial ethnic minorities (77.5%).

Treatment

The *Three Pillars of Trauma Informed Care* (Bath, 2008) provided a broad model where children were able to: (a) build a safe relationship with the counselor, (b) learn about and develop healthy connections, and (c) arrive at techniques to manage emotions (i.e., impulse control). Counselors-in-training were able to draw from evidence-based counseling interventions found to be effective with childhood trauma and implement techniques and interventions to serve the client (e.g., play therapy, CBT). The goal of the trauma-informed treatment intervention was to first re-establish client's safety, and identify triggers associated with the traumatic event (Bath, 2008). Once triggers were identified, the goals and interventions were formed around obtaining healthy coping skills to decrease trauma-symptomology (Bath, 2008).

In the present investigation, the researcher took steps to enhance treatment fidelity. Specifically, the researcher provided a half day training including: (a) trauma symptomology and how it manifests in children; (b) cultural considerations of the population that would be receiving the TI-SBMHCI (i.e., children of racial/ethnic minority backgrounds, low-income families, and Title I elementary schools); (c) implementation of the TI-SBMHCI and the three pillars of trauma-informed care (Bath, 2008); and (d) administration of the RI-child PTSD assessment. Further, counselors-in-training were responsible for providing evidence that they were adhering to the TI-SBMHCI in weekly progress notes. Members of the research team checked the counselors' weekly progress notes and serve as external auditors and randomly observe counseling sessions at each phase of treatment and complete the treatment fidelity TI-SBMHCI checklist (r_{pre} = .42; r_{mid} = .57; r_{post} = .56), in addition to a midterm and final CCS-R ($r_{midterm}$ = .62; r_{final} = .69).

Trauma-informed treatment models are effective in reducing trauma symptomology coincide with the Bath (2008) three pillars. However, each treatment model has varied in the strength of treatment fidelity, length of intervention, and treatment observation points. For example, the Sanctuary Model (Bloom, 1997) addresses PTSD symptoms by focusing on the child's safety, unhealthy attachments, and behavioral disruptions. The researchers conducted the only randomized control study examined the Sanctuary model note that future research should include greater treatment fidelity efforts (Rivard et al., 2005). Specifically, individuals administering the intervention were trained on the Sanctuary Model but there were no treatment fidelity procedures set in place to see if these individuals were adhering to the model throughout treatment. Further, Rivard and colleagues (2005) observed participant progress over a longer duration than the present study (i.e., baseline, three months and six months). The Fairy Tale Model of Trauma-informed Treatment (Trauma Institute and Child Traumatic Institute, 2015) involves children in telling their stories, while identifying coping skills, impulse control and self-regulation surrounding trauma triggers. Both the Fairy Tale Model of Trauma-informed Treatment and the Sanctuary Model involve a trauma-informed perspective but do not include scripted interventions. Similar to the Sanctuary Model, researchers who assessed the effectiveness of the Fairy Tale Model of Trauma-informed Treatment note future research should increase efforts in maintaining treatment fidelity, as an initial training was provided to individuals administering the intervention (Farkas et al., 2010; Greenwald, 2003; Greenwald et al., 2012).

Further, two school-based trauma treatments that have been examined with elementary school children who have experienced trauma are the Cognitive Behavioral Intervention for

Trauma in the Schools (CBITS; Stein et al., 2003) and Bounce Back (BB; Langley & Jaycox, 2011). Unlike the Fairy Tale Model of Trauma-informed Treatment and Sanctuary Model, both models are more scripted and tailored around the TF-CBT framework to be provided in a school-based group intervention. Similar to the TI-SBMHCI investigated in this study, CBITS and BB are both 10-week interventions; however, these interventions specifically teach cognitive behavioral skills in a group setting to allow children to cope following a traumatic experience (Jaycox et al., 2010; Langely & Jaycox, 2011). Furthermore, CBITS and BB are both interventions mainly provided by school staff (i.e., social workers and school counselors) and researchers have noted the lack of treatment fidelity procedures to monitor the implementation of the intervention. Researchers attribute the lack of treatment fidelity to lack of resources and school personnel providing the intervention. Although BB and CBITS are 10-week interventions, research examining the effectiveness of the interventions included data observation points over a longer duration than the present study. For example, Langely and colleagues (2015) collected data at baseline, three months, and six months to assess posttraumatic stress, depression, anxiety, and parental education following the 10 session BB intervention.

Challenges related to transferring counseling research in school-based settings has been noted, as school-based settings lack resources that community settings may have to enhance treatment fidelity (Bright et al., 2010). Further, the lack of social network of outside providers makes it difficult for school personnel (e.g., school counselors) to obtain data collection over shorter time periods due to limited resources, time constraints, and competing educational demands. Thus, the treatment fidelity approaches implemented in this current investigation serve as a strength and contribute to need for treatment fidelity efforts in school-based settings

(Greenwald et al., 2012). Further, the observation points (1st session, 5th session, and 10th session) for the following investigation show to be unique in trauma-treatment interventions and may mitigate threats to internal validity (i.e., maturation). However, unlike the abovementioned research surrounding trauma-treatment interventions, the current study lacked follow-up procedures to assess the sustainability of the treatment intervention over time. In the following section, the researcher discusses the results of the study, comparing and contrasting the results to previous findings examining trauma-informed treatment models in addition to school-based counseling intervention research.

Research Question 1

Do participants' behavior and emotional problem scores, academic behavior, and trauma symptomology change over time as a result of participating in a 10-week TI-SBMHCI, in Title I elementary schools via parent/guardian report scores as measured by CBCL (Achenbach, 2001) and teacher report scores as measured by TRF (Achenbach, 1992); school-based data as measured by attendance, and discipline referrals, and trauma symptomology as measured by RI (Pynoos et al., 1998, 2017)?

The purpose of research question one was to determine whether students enrolled in Title I elementary schools who received 10 sessions of a TI-SBMHCI would report a decreases in: (a) trauma symptomology per parent and child report (as measured by the RI); (b) internalizing and externalizing symptomology per teacher and parent report (as measured by the CBCL and TRF); (c) school absences; and (d) office discipline referrals. The primary statistical procedure selected was a RM-MANOVA to determine if there was a significant difference in mean scores over time.

Trauma Symptomology

As indicated, there was not a multivariate within-subjects effect across time per child report on trauma symptomology, Wilks' $\lambda = .712$, $F_{(1, 40)} = 1.62$, $p = .159$; partial $\eta^2 = .288$, with moderate observed power, .603. However, univariate analysis results demonstrated statistically significant decrease in re-experiencing scores (partial $\eta^2 = .088$), arousal scores (partial $\eta^2 = .086$), and total trauma symptomology (partial $\eta^2 = .08$). Re-experiencing, arousal and total trauma symptomology scores had moderate effects sizes in detecting change in the child report of trauma symptomology. Furthermore, univariate subscale scores that did not exhibit significant decreases over time included avoidance and negative thoughts.

Although the changes in child report of trauma symptomology moderately changed over time (i.e., re-experiencing, arousal, and total trauma symptomology), the results for parent report on trauma subscale scores and total trauma symptomology showed significant decrease with large effect sizes and large observed power. Specifically, the RM-MANOVA identified that there was a within-subject multivariate effect across time, Wilks' $\lambda = .454$, $F_{(1, 40)} = 4.808$, $p = .001$; partial $\eta^2 = .288$, with strong observed power, .990. Furthermore, the analysis of univariate tests exhibited significant decreases in all four subscale scores over time with strong effect sizes: (a) re-experiencing ($\eta^2 = .251$); (b) avoidance ($\eta^2 = .180$); (c) negative thoughts ($\eta^2 = .315$); and (d) arousal ($\eta^2 = .192$). Also, participants' trauma symptomology total problem scores also exhibited significant decreases in scores over time, with a large effect size (partial $\eta^2 = .369$), and optimal observed power, 1.00.

The instrument chosen for the present study to assess trauma symptomology was the RI (Pynoos et al., 1998, 2017) to assess exposure to trauma and change in trauma symptomology

symptoms. The RI has four subscales aligning with the DSM-5 diagnosis of PTSD: (a) re-experiencing, (b) avoidance, (c) negative thoughts and feelings, and (d) arousal (Pynoos et al., 1998, 2017). Both the parent and child versions consist of 20-item scales using a 5-point Likert response rating in creating subscale and total trauma symptomology scores. For the present study, parents or legal guardians completed the RI on their own, whereas counselors-in-training administered the assessment with children in their scheduled counseling sessions. All assessments were filled out at pretest, prior to Session 1; mid, following the completion of Session 5; and posttest following the completion of Session 10. A cut-off of 38 has a specificity of 0.87 in detecting PTSD and within the current sample, 12 participants (30%) met that criteria at baseline per parent report (Rodriguez et al., 2001a, 2001b).

The current study revealed acceptable Cronbach's alpha scores at all assessment points. The RI maintained sound consistency for parent report at all assessment points: (a) pre (α = .80); (b) mid (α = .80); and (c) post (α = .82). Similarly, the RI maintained acceptable to good levels of internal consistency for child report across all three-time points: (a) pre (α = .78); (b) mid (α = .82); and (c) post (α = .81). Internal consistency scores are similar in previous studies with elementary aged students. For example, (a) Steinberg and colleagues (2004), α = .85; (b) Kean and colleagues (2005), α = .84; and (c) Yasinski and colleagues (2016), α = .87. Overall the reliability coefficients reported in the current study were consistent with previous research.

The current study reported lower RI total trauma symptomology scores for children who have experienced trauma compared to other studies. For example, Lyshak-Stelzer and colleagues (2007) and Shehadeh and colleagues (2016) reported higher mean scores for children (M = 58.1 and M = 40). However, the current study included children from low-income communities,

whereas the abovementioned studies included more specific groups of children who were either receiving treatment for mental health concerns (residential treatment facilities; Lyshak-Stelzer et al., 2007) or had a specific traumatic experience (parental imprisonment; Shehadeh et al., 2016). Thus, the lower mean scores for the current study can be attributed to the broad sample of children living in low-income communities; whereas, past research has identified more specific samples who have experienced trauma, based on treatment settings or traumatic experiences.

Overall, the results of improved trauma symptomology were consistent with existing research findings pertaining to trauma-informed treatment and school-based trauma informed treatment in the reduction of trauma symptomology per parent and child report. Results from studies examining the Fairy Tale Trauma-informed Treatment Model in residential settings, foster care settings, and impoverished urban neighborhoods showed a reduction in PTSD symptomology per both parent and child report (Farkas et al., 2010; Greenwald, 2005; Greenwald et al., 2012). Researchers have suggested that the Fairy Tale model was effective due to the flexibility for clinicians to choose specific interventions and counseling techniques on how to effectively work through each phase based on the unique needs of the child (Greenwald et al., 2012). Results from the only randomized trial of the implementation of the Sanctuary Model provided in a residential treatment setting, indicated that child report trauma symptomology (*Trauma Symptom Checklist for Children*; Briere, 1996), did not show significant differences in decrease compared to the control group until the six-month or 24-week mark (Rivard et al., 2005). Differences in results in the present study may be due to several variables, including: (a) use of a different assessment (i.e., RI); (b) different sample (i.e., children in Title I elementary school); (c) setting (i.e., school); and (d) duration of treatment (10- weeks). In comparison to the

present study's 10-week intervention, children's trauma symptomology per child report mainly decreased from pretest to mid and then increased from mid to posttest, and parental scores decreased from pretest to mid and then further decreased from mid to posttest; thus, a longer intervention may show stronger reduction in trauma symptomology per child report. Furthermore, a longer intervention may allow a child to build trust with the counselor prior to addressing a traumatic experience, as the present study devoted the first four sessions to developing a safe therapeutic relationship. Overstreet and Mathews (2011) reported children must feel safe within a therapeutic relationship in order to regain power that was lost from their traumatic experience, and this may take a substantial amount of time depending on the severity of the trauma and the developmental level of the child.

In regard to trauma-informed school-based models, CBITS was examined with Latino immigrants who experienced community violence, identifying significant decrease in self-reported PTSD and depressive symptoms in 86% of students receiving the service (Kataoka et al., 2003). Similarly, CBITS examination with hurricane Katrina survivors showed significant improvements in PTSD symptoms (Jaycox et al., 2010). A school-based intervention, Bounce Back, was implemented with low-income elementary schools in comparison to a delayed three month-waitlist control group (Langely & Jaycox, 2011). No significant differences were found between the control group and intervention group except parents/caregiver showed improved knowledge on trauma. The intervention group did show improvement in trauma symptomology per parent report, in addition to child and parent reports of depression and anxiety with large effect sizes large effect sizes ($f^2 \geq .34$). Thus, showing the effectiveness of a school-based trauma

intervention in promoting parental awareness and insight on trauma and trauma symptomology, contributing to significant decrease in trauma symptomology.

Although the majority of trauma symptoms improved over the 10-week intervention per parent and child report; negative thoughts and feelings, and avoidance subscales did not significantly decrease over time per child report. However, participants in the current sample reported a decrease of negative thoughts and feelings and avoidance symptomology from pretest to mid, but then reported an increase from mid to posttest. The present study had an intervention of 10-weeks and data was collected directly after each phase of treatment; whereas, other studies examining 10-week trauma interventions collected data over a longer duration of time (e.g., baseline, three months, six months; Langley et al., 2015). Thus, within the present study the last pillar of trauma-informed treatment of "managing emotions" may have immediately impacted child report of trauma symptomology (e.g., intensified negative thoughts and feelings and increased avoidance behaviors), as the final pillar involves identifying trauma triggers and regulating impulses when triggered (Bath, 2008).

Social-Emotional Functionality

The instruments chosen to measure social-emotional functionality were the CBCL (Achenbach & Rescola, 2001) and the TRF (Achenbach, 1992). Both the CBCL and TRF (6-18) include items that survey participants' behavioral and emotional problems, and scores are determined by using the CBCL and TRF total, internalizing, and externalizing problem *T* scores; *T* scores ≥ 60 are in the clinical range (Achenbach & Rescola, 2001). Within the current sample, 11 participants (27.5%) met that criteria at baseline per parent report and 11 participants (27.5%) met that criteria per teacher report regarding total problem scores. These instruments were

chosen as they have been implemented in other SBMHCI research in low-income communities (Farahmand et al., 2011) in addition to being supported in diverse populations of children and adolescents (Achenbach & Rescorla, 2001).

The current study revealed high Cronbach's alpha scores at all assessment points for both the CBCL and TRF at all assessment points for participants that received the TI-SBMHCI. Specifically, internal consistency reliability for the CBCL demonstrated high scores at all observation points: (a) pre (α = .94); (b) mid (α = .96); and (c) post (α = .93). Similarly, the TRF scores demonstrated strong internal consistency across all three-time points: (a) pre (α = .89); (b) mid (α = .90); and (c) post (α = .89). Internal consistency scores are similar in previous studies with elementary aged students for both the CBCL and TRF. For example, in regard to the CBCL internal consistency scores have included: Kugler and colleagues (2013), α = .95 and Albores-Gallo and colleagues (2007), α = .97. Similarly, TRF internal consistency scores have included: Kugler and colleagues (2013), α = .96 and Gadeyne and colleagues (2004) α = .92. Overall the reliability coefficients reported in the current study show consistency in responses for both the CBCL and TRF.

Similar to trauma symptomology, the current study reported lower CBCL and TRF total problem scores for children who have experienced trauma compared to other studies. Kugler and colleagues (2013) conducted the only study to-date that examined caregiver and teacher agreement on emotional and behavioral problems in traumatized youth in residential facilities, and mean scores for children included, CBCL (M = 64.12) and TRF (M = 63.03). Further, the interrater agreement between caregivers and teachers was low (0.29; Kugler et al., 2013). Within the current study, results from a Pearson correlation indicated there was not a significant

relationship between internalizing scores ($r_{(40)} = .157$, $p = .333$), externalizing scores ($r_{(40)} = .127$, $p = .437$), and total problem scores ($r_{(40)} = -.002$, $p = .998$); therefore, there was not an agreement rating between parents and teachers within the current study. The sample in the current study included children from low-income communities, whereas the abovementioned study included a sample of 400 foster children residing in a residential setting needing a higher level of care, with the majority of children identifying as Caucasian/White (60%; Kulger et al., 2013). Further, the current study had similar CBCL scores to school-aged children who have experienced a traumatic event. For example, Wiber and colleagues (2008) examined socioemotional effects of parental incarceration on low-income school-aged youth in urban schools with similar parental scores CBCL ($M = 49.03$); however, TRF ($M = 59.38$) scores were higher than the current sample. The higher mean scores with teacher report may be attributed to the different setting (i.e., urban), with children exhibiting different behaviors in the classroom as compared to children in the present study, in addition to differences in teachers completing the evaluation.

Parent Report

Similar to parent report on trauma symptomology, parent report on child internalizing, externalizing, and total problem behavior showed significant decrease with strong effect sizes and strong observed power. As noted, results of the RM-MANOVA identified a within-subject multivariate effect across time, Wilks' $\lambda = 6.88$, $F_{(1, 40)} = 4.078$, $p = .008$; partial $\eta^2 = .312$, with strong observed power, .874. Furthermore, analyses of univariate tests indicated that participants' CBCL internalizing (partial $\eta^2 = .160$), externalizing (partial $\eta^2 = .160$), and total problem (partial $\eta^2 = .236$) scores exhibited significant decrease in scores over time with large

effect sizes and strong observed power.

CBCL internalizing and total problem mean scores exhibited decreases from pretest to mid and exhibited further decreases from mid to posttest. CBCL externalizing mean scores exhibited decreases from pretest (M = 57.58) to mid (M = 53.18) but stayed consistent between mid to posttest (M = 53.30). These findings are consistent with SBMHCI and trauma-informed treatment research in being effective in reducing internalizing symptomology (Bernstein et al., 2005; Santiago et al., 2018). However, SBMHCI researchers have noted the limitation of SBMHCI as mainly being internalizing-focused, as compared to externalizing-focused with interventions focusing on substance use prevention, opposed to conduct disorders (Farahmand et al., 2011).

The results of the present study address the limitations of SBMHCI in lacking a developmentally appropriate clinical intervention to assess the effectiveness in decreasing externalizing symptomology. There are several explanations as to why the present study's findings exhibited significant decrease in externalizing. First, the TI-SBMHCI allowed counselors-in-training to choose interventions and techniques from theoretical orientations they chose (e.g., play therapy), while adhering to trauma theory. For example, a meta-analysis examining play therapy in school settings has shown effectiveness in reducing externalizing symptomology per parent report with a large effect size, .34 (Lin & Bratton, 2015). Further, trauma-informed treatment interventions have been effective in reducing externalizing symptomology with children and adolescents in residential units. For example, the Sanctuary Model showed effectiveness in the reduction of externalizing behaviors including locus of control and aggression with children in residential units (Rivard et al., 2005). Further, the Fairy

Tale Trauma-informed Treatment Model implemented in a residential facility showed effectiveness in a 50% reduction of incident reports such as assault, runaway, and property destruction (Greenwald, 2003). Further, the intervention also exhibited overall significant within-subject change in behavioral with a large effect size ($\eta^2 = .75$) on the Problem Rating Scale (PRS; Greenwald, 1996) per parent report (Greenwald et al., 2012). Greenwald and colleagues (2012) had a larger effect size in behavioral change per parent report than the current study ($\eta^2 = .211$), this distinction may be attributed to the difference in length of the assessment and sample (i.e., children from residential facility).

The change in externalizing behavior symptomology within the present study may be due to the emphasis given on addressing trauma triggers and impulse control within the TI-SBMHCI provided, in addition to counselors-in-training having the freedom of choosing therapeutic techniques (e.g., play therapy, trauma-informed care) that have shown to be effective in behavioral change with children. However, the change in externalizing symptomology may be unique to the sample in the present study, as Langley and colleagues (2015) implemented a trauma-based intervention in four Title I elementary schools with racial/ethnic minority children and only found changes in internalizing symptomology scores (i.e., depression and anxiety). Nonetheless, the change in externalizing symptomology finding adds to the SBMHCI literature and supports trauma-informed treatment interventions provided in school settings in promoting social-emotional functioning.

Teacher Report

With respect to teacher report, the results of the RM-MANOVA identified there was not a within-subject multivariate effect across time, Wilks' $\lambda = .812$, $F_{(1, 40)} = 2.084$, $p = .103$, with

observed power, .562. Univariate tests indicated that there was not significant decrease in internalizing scores or externalizing scores. However, participants' TRF total problem scores did exhibit significant decreases in scores over time with a moderate effect size (partial $\eta^2 = .090$) with an observed power, .628. The lack of significant change for internalizing and externalizing symptomology over time may be attributed to the lack of teachers' ability to recognize trauma-related symptomology and distinguish these symptoms from other challenges such as acting out. However, the decreases in mean scores on internalizing and externalizing behaviors, in addition to significant change in total problem scores, is a finding that contradicts the majority of researchers pertaining to examining the effectiveness of SBMHCIs. Aside from Montañez et al. (2015) who found statistically significant effects over time on social and classroom performance with moderate effect size of .08 per teacher report, the lack of teacher report changes within SBMHCI research has been noted as a limitation (Farahmand et al., 2011). Further, when implementing trauma-informed treatment interventions in the schools, there has been a lack of evidence in teacher report on classroom behavior for both the CBITS and BB intervention (Kataoka et al., 2003; Santiago et al., 2018), and non-statistically significant changes in teacher report has been noted as a limitation.

According to Vance (2014), the lack of change in teacher report may be the result of little overlap between children exhibiting the same behaviors at home and at school, teachers finding it difficult to change their perception of their students, or low to moderate cross-informant agreement between CBCL and TRF scores (non-statistically significant chi-square statistic, x^2 (1, 729) = 1.49). Thus, internalizing and externalizing behaviors may be rater-specific (e.g., teacher or parent) or setting-specific (e.g., home or school), and interventions should promote teachers'

involvement, or incorporate a more objective source (e.g., classroom observation from a third party). In regard to the present study's change in teacher report, mean scores on internalizing, externalizing, and total problems all increased from pretest to mid; however, subscales and total scores decreased from mid to posttest. Total problem mean scores decreased from pre (M = 54.99) to mid (M = 53.30) and exhibited further decrease from mid to posttest (M = 52.79), suggesting a longer intervention (i.e., 10-weeks) may be beneficial in teachers acknowledging and recognizing changes in the classroom. Results are consistent with Achenbach (1987) meta-analysis of interrater agreement on the CBCL and TRF exhibiting low reliability (0.22 to 0.28) across informants. Kulger and colleagues (2013) found similar results of poor interrater agreement between teachers and caregivers on social-emotional report with traumatic youth in residential settings. Researchers suggest poor interrater agreement may be attributed to: (a) variability in youth symptomology (e.g., exhibiting changes in symptoms across different environments, yielding complications in making consistent assessments across informants); and (b) variability in informants (e.g., teacher training or experience on certain levels of symptomology, impacting baselines for problematic symptoms).

Research Question 2

What is the effect of a 10-week TI-SBMHCI in Title I schools on participants' academic behavior, as measured by attendance, and discipline referrals, as compared to students who did not receive a 10-week school-based counseling intervention using propensity score matching?

The purpose of research question two was to determine whether students enrolled in Title I elementary schools who received 10 sessions of a TI-SBMHCI would report a decrease in school absences and office discipline referrals over time as compared to a matched sample

control group. The second phase of the study used a quasi-experimental comparison group pretest-posttest research design with a matched sample control group, based on covariates to answer the second research question. The covariates to match the groups included participants' (a) free and reduced lunch status, (b) IEP diagnosis (c) age, (d) grade, (e) ethnicity/race, and (f) gender. The covariates were chosen due to the access of demographic data through the school partnership in addition to past research supporting chosen covariates as predictors of school attendance and office discipline referrals rates (Mcloughlin & Noltmeyer, 2010; January et al., 2018). Mcloughlin and Noltemeyer (2010) examined predictive factors contributing to office discipline referral rates and found race/ethnicity (mainly African American youth), economically disadvantaged students, and students receiving school services (e.g., IEP) had higher rates of office discipline referrals than other groups of students. Further, January and colleagues (2018) assessed predictive variables for school satisfaction including attendance and office discipline referrals. Researchers found that race/ethnicity, age, special education status, and gender were significant predictors to school absences (January et al., 2018). The matched sample control group was created through PSM (Rosenbaum & Rubin, 1983) from a convenience sample (Glass, 1980; Hair et al., 2006) to measure the impact of the independent variable (TI-SBMHCI) on the dependent variables of school data (attendance, discipline referrals).

Academic Behavior

As indicated, results of the RM-ANOVA identified that attendance did not significantly decrease over time for the treatment group, and results of RM-ANOVA between-subject analysis identified that there was not a between-subject effect among the treatment and control group for school absences. However, office discipline referrals for participants who received TI-SBMHCI

did exhibit significant decrease change over time with a moderate effect size (partial $\eta^2 = .094$,) with an observed power of .502. Results from the RM-ANOVA between-subject analysis identified that there was a between-subject effect among the treatment and control group concerning office discipline referrals $F_{(1, 80)} = 4.271$, $p = .042$, with a small effect size (partial $\eta^2 = .052$,) with an observed power of .532, indicating significant difference between the scores of groups over time. In addition, the small effect size indicates there may be practical significance of the intervention; that is, approximately 5% of the difference in scores between groups is due group placement (i.e., treatment group versus control group).

Past SBMHCI research has promoted academic achievement. To-date the only SBMHCI that assessed school attendance was implemented in urban elementary schools for Latino at-risk students and identified an increase in school attendance (Montañez et al., 2015). Further, both the treatment and control group's mean school absence rate decreased. However, outside factors may have contributed to increased school attendance. For example, the TI-SBMHCI began at the beginning of the semester and children may have become more accustomed to their school environment over the course of the semester.

A psychosocial school-based intervention provided to elementary-aged students with ADHD exhibited improvement in academic performance (i.e., improved grades); and a meta-analytic review of child-centered play therapy interventions implemented in schools reported statistical improvement in academic performance (i.e., effect size, .46). Although there has been evidence of SBMHCIs improving academic functioning, there is a lack of research focusing on the change in office discipline referrals and school attendance. Most of the research has focused on the improvement of school grades and standardized test scores. However, the researcher

chose office discipline referrals and school attendance for present study to obtain objective school behavior to accompany teacher report of participant behavior. Also, children who attend school and have lower discipline problems feel more connected to the school environment (e.g., teachers and peers), and have an increase in motivation to learn, positively impacting academic achievement (Montañez et al., 2015).

Overall, in the present study, the majority of students in both the treatment and control group attended school and did not have office discipline referrals at pretest and posttest. This finding is different than past research with children from low-income communities. For example, Tenenbaum and Ruck (2007) conducted a meta-analysis of 15 studies looking at office discipline referrals and found a small, positive effect (d = 0.31) for race/ethnicity on number and type of referrals; specifically, African American and Hispanic students received a greater number of referrals for disciplinary problems and special education services than Caucasian students. Further, Kaufman and colleagues (2015) found that Black/African American students had six times the number of office discipline referrals than any other ethnic group within a low-income large urban school district. However, Kaufman and colleagues (2015) found no difference in school attendance rates of children based on ethnicity, age, or grade. Researchers suggest that the low-income community impacts attendance rates and that attendance problems should be targeted by a school-wide intervention (Kaufman et al., 2015). Although, the current study had the majority of ethnic/racial minority sample, with the highest percentage of African/American students, there was not a high rate of discipline referrals at baseline. Therefore, within the current study, school attendance and discipline referrals may not be appropriate measurement outcomes for this specific population of low-income youth who have experienced trauma. However, there

is a need for future research examining the impact of SBMHCIs on objective academic behavior, including office discipline referrals and school attendance to add to observer rating (i.e., teachers and parents) of social-emotional behavioral outcomes.

Limitations of the Study

As with any research, this study has limitations which are important to explore in order to inform future studies. Limitations in the areas of (a) research design, (b) sampling, (c) instrumentation, and (d) treatment are reviewed.

Research Design

In the first phase of treatment the quasi-experimental research design utilized in this study may have posed threats to both internal and external validity. Specifically, history related threats may have been present due to the intervention taking place over a 10-week period (Creswell, 2013). For example, the intervention took place at the beginning of each academic semester and symptomology may have improved based upon children becoming more adapted to circumstances relating to the academic semester. Further, since guardians expected their children to gain from the group counseling intervention and an incentive ($30) was given upon the completion of the intervention, it is possible that a novelty effect was at play. Although a matched sample control group was implemented to examine effects of the intervention on academic behaviors, the group was matched based on co-variates and there was no way of knowing the children in the control group experienced a traumatic event, thus creating differences at baseline. In addition, hidden bias due to latent variables may have remained after matching. Specifically, the present study could not control for participant maturation and the lack

of nonrandom assignment may threaten statistical conclusion validity. Lastly, the small sample size ($N = 40$) may limit generalizability of results and may limit the ability to detect significant relationships between the independent and dependent variables.

Sampling

Due to the broad nature of the childhood trauma population, in addition to children from low-income communities, it is difficult to estimate generalizability (Gall et al., 2007). Specifically, population validity was viewed as a limitation within this study, as these three Title I elementary schools have unique characteristics that may differ from other low-income community elementary schools throughout the United States. As noted, the sample in the current study had different racial/ethnic identification than Title I elementary schools across the United States, with far less White/Caucasian and Hispanic children, which does not support generalizability. However, obtaining a larger sample may have more accurately reflected Title I elementary schools in the United States. Further, a convenience sample was utilized in this study through a partnership between a Southeast school district and a larger university in the Southern United States. The entire project occurred in a Southeast state and it is unknown whether the results can be transferred to other low-income areas (i.e., urban). Referrals were given to the research team by school personnel (e.g., school counselors, teachers, administration); thus, referrals may have been biased by school personnel and not reflect the school population. For example, 60% - 70% of school-aged children experience a traumatic event prior to the age of 17 (Bethell et al., 2017). Of the 61 students referred for services, the majority ($n = 56$, 93%) experienced trauma. Santiago and colleagues (2018) noted referrals based on school-staff

knowledge of children as a limitation in TI-SCBMHI research and suggested more universal screening measures.

In regard to trauma, the most common traumatic experience for children in low-income communities has been acknowledged to be community violence (Overstreet & Mathews, 2011); however, the most common traumatic experience for the participants in the present study was bereavement of a primary caregiver (e.g., biological parent). Thus, suggesting death of a caregiver was derived by the community circumstances these children were living in (e.g., health concerns), further limited the generalizability of the sample. Nevertheless, the second most common trauma event experienced by the current sample was separation from a caregiver, which is consistent with research surrounding low-income communities (e.g., parental incarceration; Wiber et al., 2008). Children partaking in counseling interventions often experience better improvement in emotional and behavioral problems (Overstreet & Mathews, 2011). Thus, results may have been influenced by counseling (i.e., receiving emotional support, counseling relationship) opposed to the trauma-focused intervention.

Instrumentation

The detection of change in the chosen constructs relies heavily on the instruments of choice. Particular attention was given to selecting well-known, clear, psychometrically-sound instruments; yet, all instruments have their limitations. Although self-report measures have a limitations, they were needed for the present study as experiences of trauma symptomology, and social-emotional functionality are personal and unique. It is possible that the RI child version (Pynoos et al., 1998, 2017) may have had issues with construct validity. Although the counselors-in-training received the same training on how to administer the RI child version, the

assessment was administered by counselors-in-training and the way in which counselors administered the assessments varied. For example, some counselors-in-training had their clients fill out the questionnaires themselves, whereas other counselors-in-training read each possible response to their clients. In reference to the trauma symptomology, it is also possible the trauma symptomology may have been interpreted differently for each individual child based upon developmental level.

Although particular attention was given to selecting psychometrically-sound measures, the CBCL and TRF are long instruments with approximately 113 questions. Since instruments were administered at three points within ten weeks, it is possible that participants may have experienced instrumentation fatigue and the repeated encounters with the same measures may have caused desensitization (Cahit, 2017). Thus, answers may have been skewed, particularly in reference to the second (5^{th} session) and third (10^{th} session) administrations, as participants may have become accustomed to the measure and may have answered with less attentiveness and detail than at baseline.

Treatment

Although, the researcher took steps to enhance treatment fidelity such as providing a training, research team members serving as external auditors, and checking progress notes each week, the intervention was counseling; thus, generalizability of the treatment is questionable and poses threats to internal validity. Specifically, the trauma-informed treatment is new, individuals may be biased in replication of the treatment; further, since the treatment is intended to assist children's social-emotional functionality and trauma symptomology, attitudes and expectations of change may have influenced the reported scores. Furthermore, the limited control in the

counselors' backgrounds presents a potential limitation for the study, as counselor trainees provided the intervention.

Ray and colleagues' (2011) examined 4,457 ACA division affiliated journals from 1998 to 2007 and found that only 6% of counseling articles explored the effectiveness of counseling interventions. No prior research has been conducted on an individual trauma-informed school-based mental health counseling intervention with children from low-income communities. Therefore, the counseling framework was created for the present study and has not been tested. Regardless, the study contributes to needed evidence-based practice research in the counseling field by providing a new trauma-informed framework with evidence to support its efficacy regarding the ability to facilitate individualized trauma-informed interventions in school settings for children in low-income communities.

Implications of the Findings

Despite of limitations, the results from the present study have implications for counselors, counselor educators, and children from low-income communities. Further, the results have the potential to inform policy.

Implications for Counselor Education

The results of the present study can inform ethical and effective counselor education. Counselor educators are responsible for developing curricula to include ethical and culturally relevant methods for designing and facilitating mental health interventions (CACREP, 2016). Culturally sensitive approaches, such as the trauma-informed treatment interventions, should also be included in supervision (CACREP, 2016). Counselor educators can also create partnerships

with school districts in low-income communities as a means to appropriately train their counselors in culturally sensitive counseling and trauma-informed counseling, as well as provide counseling services to youth in need. Counselor educators are responsible for promoting the empirically supported interventions; thus, the results from the present study can be used to inform counselor education in trauma-informed counseling provided in schools.

Furthermore, prior to the investigation, no studies were identified that explored the impact of an individualized TI-SBMHCI on trauma symptomology, social-emotional functionality, and academic behaviors. Thus, the current study adds to the literature regarding an effective intervention (TI-SBMHCI) to address trauma symptomology, improve social-emotional functionality both at home and in the classroom, and improve academic behaviors. The results contribute to addressing the gap of outcome-based, trauma-informed counseling, and school-based interventions with children from low-income communities. Although, trauma-informed treatment has been examined, no studies were identified which aimed to include a control group to test the ability of a TI-SBMHCI on academic behaviors. While the present study acknowledged limitations regarding the PSM procedure (i.e., latent variable bias), it presents a unique and innovated method of including a control group to identify objective school measures, without denying services to children in need.

Implications for Counseling

The findings from the present study confirm that counselors working with elementary-aged children in a school setting may benefit from using a trauma-informed approach in promoting social-emotional functionality and academic behavior with elementary aged children

from low-income communities (i.e., Title I school). Bruce and Waelde (2008) report that economic hardship is the most common factor in reported childhood trauma, due to several risk factors that are associated with children living in impoverished environments (i.e., parental incarceration, substance abuse, and unemployment). Specifically, implementing trauma-informed treatment approaches (i.e., three pillars of trauma-informed care) in school settings presents as an accessible way to meet the mental health needs of children living in low-income communities.

Further, the importance for mental health counselors to be competent in trauma-informed clinical approaches has been recognized in the literature (CACREP, 2016; Santiago et al., 2018). Findings from the current investigation provide support for the use of TI-SBMHCI, as current results include moderate to large effect sizes on decreasing: (a) trauma symptomology (RI); (b) internalizing, externalizing and total problem behavior (CBCL and TRF), and (c) office discipline referrals. Thus, school and mental health counselors who recognize the limitations of their clinical competence and the need for continuing education may benefit from this outcome-based research. Specifically, the current findings demonstrate practical significance for training counselors in trauma-informed treatment approaches to support children living in low-income communities.

Implications to inform Policy

These results can expand beyond the counseling and counselor education fields and impact policy. Children that come from low-income homes and of racial/ethnic minority backgrounds are more likely to experience a traumatic event and are less likely to receive

appropriate counseling interventions. Untreated trauma symptomology in children leads to more severe mental health diagnoses, high school dropout, substance abuse, and delinquent behavior that may lead to incarceration. Early intervention is significant in mitigating risk factors that may lead to possible incarceration. The findings identified the effectiveness of trauma-informed training for mental health services provided in a low-income school setting (i.e., Title I elementary schools) in treating children's trauma symptomology, social-emotional functionality, and academic functionality. Increased evidence of the effectiveness of TI-SBMHCS, such as the results in the present study, can impact policy makers' decisions to increase funding for school-based mental health counseling services in high poverty elementary schools. Funding can be used to provide low-income schools with resources to obtain outside mental health providers to implement TI-SBMHCI's at no cost, to decrease barriers in children receiving appropriate mental health interventions.

Recommendations for Future Research

Although the researcher attempted to mitigate limitations within the current investigation, there are recommendations for future research to address these limitations. Generalizability of the results would benefit from larger sample sizes. Further, a larger sample size in addition to randomization of treatment and control group would strengthen the research design and PSM analyses. In addition, a larger sample size including children from Title I elementary schools in urban settings may strengthen generalizability. Although a RM-MANOVA provides information related to changes in group mean scores over the course of the TI-SBMHCI, it does not provide information related to individual change. Thus, more advanced statistical procedures examining

individual change may be beneficial (e.g., latent growth curve modeling; LGM), as it evaluates the effect of treatment on several outcomes. Thus, using LGM can be helpful in looking at multiple factors of an individual child (i.e., IEP diagnosis, gender, race, age, type of trauma, etc.) that may impact: (a) trauma symptomology, (b) social-emotional functionality, and (c) academic functionality. Further, hierarchical regression models may be beneficial in identifying predictive variables on the severity of PTSD symptomology. For example, Choa and colleagues (2011) implemented hierarchal regressions in predicting PTSD symptomology (as measured by the RI) in childhood physical abuse in China, using predictive variables of age, gender, abused by parent, abused by non-parent adult, and time elapsed. Due to the prevalence of trauma of children living in low-income communities, examining predictive factors on PTSD symptomology may be beneficial in future research.

The current sample included children from Title I elementary schools in a Southeast state; however, future studies would benefit from focusing on alternative low-income communities (i.e., urban). For example, children from low-income urban communities may present trauma symptomology differently; thus, these different life experiences due to environment require further exploration. Furthermore, future research would benefit from examining a longer intervention to allow children to develop a safe relationship with the counselor prior to addressing the trauma, as the majority of trauma-based interventions have required a longer duration of treatment (e.g., six months; Santiago et al., 2018). Further, follow-up procedures may prove to be beneficial in assessing the long-term effectiveness of a TI-SBMHCI.

Often children who experience trauma feel isolated and disconnected from peers (Osfosky et al., 2015). Therefore, a trauma-informed framework may be a facilitative tool for managing trauma symptoms and counselors may be able to adapt the three-pillar framework from an individualized approach into a trauma-informed group curriculum to meet the needs of children from low-income communities in group counseling. Additionally, the trauma-informed intervention may have beneficial components for family counseling with youth who have experienced trauma in improving parental awareness on trauma symptomology (Langley & Jaycox, 2011). Although, previous research has assessed academic achievement, school attendance, and office discipline referrals serve as an objective measure of school behavior. Further, the majority of children in this sample attended school and did not have office discipline referrals, which may be unique to the sample selected. Thus, future research should continue to examine academic behaviors such as office discipline referrals and school attendance.

Conclusion

The purpose of this study was to investigate the impact of a 10-week trauma-informed SBMHCI on children living in low-income communities in their social-emotional functionality, trauma symptomology, and academic behavior. In the first phase of the study, a one group time-series quasi-experimental design was selected to explore the change in social-emotional functionality, trauma symptomology, and academic behavior over time. The second phase of the study used a quasi-experimental pretest-posttest research design with a matched sample control group to examine the impact of the TI-SBMHCI on academic behavior. Key findings included a significant change in the participants' trauma symptomology scores. Specifically, parents reported a decrease in their child's re-experiencing, avoidance, arousal, negative thoughts and

feelings, and total trauma symptomology. Further, children self-reported decrease in re-experiencing, arousal and total trauma symptomology. Additionally, parents reported a significant change in internalizing, externalizing, and total problem behavior; and teachers reported significant change in total problem behavior. In regard to academic behavior, participants in the treatment group had a significant decrease in discipline referrals. Further, when compared to a matched sample control group, the treatment group exhibited a statistically significant decrease in discipline referrals in comparison to the control group.

The results of this study provide support for the utilization of a TI-SBMHCI with elementary-aged children from low-income communities who have experienced trauma. The promising results show that children who have experienced trauma from low-income communities may be able to combat trauma symptomology and behavioral concerns when they are able to gain access to a developmentally appropriate clinical intervention. This study is an important contribution to the counseling literature as it identifies that it is possible to facilitate trauma interventions with hard to reach populations. Finally, the findings provided support for a trauma-informed clinical intervention that should be used for counseling, counselor education, and professional development in order to assist children living in low-income communities.

APPENDIX A
TI-SBMHCI CHECKLIST

Trauma-informed Treatment Intervention: Safety (Phase 1)

Therapist: _____Child's name/age: _____

Observer: _____ Date/session #: _____

Goal:

1. To build rapport with the student-client and provide a safe environment to promote therapeutic change (genuineness, empathy, unconditional positive regard).

2. Ensure safety of the child

(1) Genuineness and Congruence

Demonstrate Genuineness and Congruence	**Exceeds Expectations (3)**	**Meets Expectations (2)**	**Near Expectations (1)**
Nonverbal Skills *Body Position, Eye-Contact, Distance from client, Use of Silence* (matches client)	Demonstrates effective nonverbal communication skills, conveying connectedness and empathy (85% of the session).	Demonstrates effective nonverbal communication skills (70% of the session).	Demonstrates inconsistency in nonverbal communication (less than 70% of the session).

How well does the counselor demonstrate genuineness and congruence?

Score: _____/3

(2) Unconditional Positive Regard

Demonstrate unconditional positive regard	**Exceeds Expectation (3)**	**Meets Expectation (2)**	**Near Expectation (1)**
Encouragers (i.e., minimal encouragers, such as head nodding, 'hmm; openers, such as 'tell me more about that')	Demonstrates appropriate use of encouragers to develop a therapeutic relationship with the child (85% of the session).	Demonstrates appropriate use of encouragers to develop a relationship with the child (70% of the session).	Lack use of encouragers, impacting the development of the therapeutic relationship development (less than 70% of the session).
Validating (i.e., reflection client's feelings or content. while conveying a non-judgmental attitude through verbal and nonverbal communication)	Demonstrates appropriate use of validation techniques through reflecting content and feelings (85% of session).	Demonstrates appropriate use of validation techniques through reflecting content and feelings (70% of session.)	Demonstrates inconsistency in reflecting content and feelings with client that does not match what the client is conveying (less than 70%).
Goals of Counseling (i.e., counselor collaborates with client to establish specific, measureable, attainable, realistic, and timely goals related to trauma).	Demonstrates consistent ability to establish therapeutic goals with client to appropriately address trauma (85% of the session).	Demonstrates consistent ability to establish therapeutic goals with client to appropriately address trauma (70% of the session).	Demonstrates inconsistent ability to establish therapeutic goals with client (less than 70% of the session; i.e., not addressing trauma or trauma symptomology).
Focus of Counseling (i.e., counselors ability to focus client on his or her therapeutic goals surrounding trauma)	Demonstrates effective ability to direct focus of counseling session to attain goals related to trauma (85% of the session).	Demonstrates effective ability to direct focus of counseling session to attain goals related to trauma (70% of the session).	Demonstrates inconsistency in focus of counseling (less than 70% of the session; i.e., lacks directing or redirecting focus of counseling on goal attainment related to trauma).

How well does the counselor demonstrate unconditional positive regard?

Score: _____/12

(3) Safety

Skills Phase 1 Safety	**No opportunity or not appropriate to do (0)**	**Had opportunity, appropriate, but did not do (1)**	**Had opportunity, appropriate and did adequately (2)**
Suicide assessment			
Homicide assessment			
Assessing for abuse (verbal)			
Assessing for behavioral evidence of abuse (e.g., looking for bruises)			
Completing trauma assessment			

1	**2**
Counselor does not effectively ensure safety of the child *(at least one middle box is checked: 'had opportunity, but did not')*	Counselor effectively ensured safety of the child *(middle box is not checked)*

Did the counselor ensure safety of the child? (No if middle box is checked)

Score: _____/2

(if score is '1' counselor did not adequately complete phase one and should reassess)

Overall Score for Phase One

Overall Phase One Score: _____/17

Trauma-informed Treatment Intervention: Connections (Phase 2)

Therapist: _____Child's name/age: _____

Observer: _____ Date/session #: _____

Goal:

1. To build rapport with the student-client and provide a safe environment to promote therapeutic change (genuineness, empathy, unconditional positive regard).

2. To help foster positive relationships to ultimately promote healthy development, healing and growth.

(1) Genuineness and Congruence

Demonstrate Genuineness and Congruence	**Exceeds Expectations (3)**	**Meets Expectations (2)**	**Near Expectations (1)**
Nonverbal Skills *Body Position, Eye-Contact, Distance from client, Use of Silence* (matches client)	Demonstrates effective nonverbal communication skills, conveying connectedness and empathy (85% of the session).	Demonstrates effective nonverbal communication skills (70% of the session).	Demonstrates inconsistency in nonverbal communication (less than 70% of the session).

How well does the counselor demonstrate genuineness and congruence?

Score: _____/3

(2) Unconditional Positive Regard

Demonstrate unconditional positive regard	**Exceeds Expectation (3)**	**Meets Expectation (2)**	**Near Expectation (1)**
Encouragers (i.e., minimal encouragers, such as head nodding, 'hmm; openers, such as 'tell me more about that')	Demonstrates appropriate use of encouragers to develop a therapeutic relationship with the child (85% of the session).	Demonstrates appropriate use of encouragers to develop a relationship with the child (70% of the session).	Lack use of encouragers, impacting the development of the therapeutic relationship development (less than 70% of the session).
Validating (i.e., reflection client's feelings or content. while conveying a non-judgmental attitude through verbal and nonverbal communication)	Demonstrates appropriate use of validation techniques through reflecting content and feelings (85% of session).	Demonstrates appropriate use of validation techniques through reflecting content and feelings (70% of session.)	Demonstrates inconsistency in reflecting content and feelings with client that does not match what the client is conveying (less than 70%).
Goals of Counseling (i.e., counselor collaborates with client to establish specific, measureable, attainable, realistic, and timely goals related to trauma).	Demonstrates consistent ability to establish therapeutic goals with client to appropriately address trauma (85% of the session).	Demonstrates consistent ability to establish therapeutic goals with client to appropriately address trauma (70% of the session).	Demonstrates inconsistent ability to establish therapeutic goals with client (less than 70% of the session; i.e., not addressing trauma or trauma symptomology).
Focus of Counseling (i.e., counselors' ability to focus client on his or her therapeutic goals surrounding trauma)	Demonstrates effective ability to direct focus of counseling session to attain goals related to trauma (85% of the session).	Demonstrates effective ability to direct focus of counseling session to attain goals related to trauma (70% of the session).	Demonstrates inconsistency in focus of counseling (less than 70% of the session; i.e., lacks directing or redirecting focus of counseling on goal attainment related to trauma).

How well does the counselor demonstrate unconditional positive regard?

Score: _____/12

(3) Safety

Skills Phase 1 Safety	**No opportunity or not appropriate to do**	**Had opportunity, appropriate, but did not do**	**Had opportunity, appropriate and did adequately**
Suicide assessment			
Homicide assessment			
Assessing for abuse (verbal)			
Assessing for behavioral evidence of abuse (e.g., looking for bruises)			
Completing trauma assessment			

1	**2**
Counselor does not effectively ensure safety of the child *(at least one middle box is checked: 'had opportunity, but did not')*	Counselor effectively ensured safety of the child *(middle box is not checked)*

Did the counselor ensure safety of the child? (No if middle box is checked)

Score: _____/2

(if score is '1' counselor did not adequately complete phase one and should reassess)

(4) Connections

Skills Phase 2 Connections	**No opportunity or not appropriate to do (0)**	**Had opportunity, appropriate, but did not do (1)**	**Had opportunity, appropriate and did adequately (2)**
Setting limits *(e.g., time limits in counseling, taking turns, etc.)*			
Teaching boundaries *(e.g., safe touch)*			
Modeling appropriate behavior *(e.g., tone of voice, communication)*			
Teach child to identify a range of emotions *(e.g., feelings chart)*			
Teach child to express emotions and communicate with adults *(e.g., role-playing)*			
Teach child to express emotions and communicate with peers *(e.g., role-playing)*			
Completing trauma assessment (5th session)			

0	**1**	**2**
Counselor does not effectively facilitate the second pillar of connections *(two or more middle boxes are checked: 'had opportunity, but did not')*	Counselor effectively facilitates the second pillar of connections *(one middle box is not checked)*	Counselor effectively facilitates the second pillar of connections *(no middle boxes are checked)*

How effectively did the counselor facilitate the pillar of connections with child?

(if score is '0' counselor did not adequately complete phase two and should reassess)

Score: _____/2

Overall Score for Phase two

Overall Phase Two Score: _____/19

Trauma-informed Treatment Intervention: Managing Emotions (Phase 3)

Therapist: _____Child's name/age:_____

Observer: _____ Date/session #: _____

Goal:

1. To build rapport with the student-client and provide a safe environment to promote therapeutic change (genuineness, empathy, unconditional positive regard).

2. Teaching and support the child to learn more effective ways to manage emotions and impulses

(1) Genuineness and Congruence

Demonstrate Genuineness and Congruence	**Exceeds Expectations (3)**	**Meets Expectations (2)**	**Near Expectations (1)**
Nonverbal Skills *Body Position, Eye-Contact, Distance from client, Use of Silence* (matches client)	Demonstrates effective nonverbal communication skills, conveying connectedness and empathy (85% of the session).	Demonstrates effective nonverbal communication skills (70% of the session).	Demonstrates inconsistency in nonverbal communication (less than 70% of the session).

How well does the counselor demonstrate genuineness and congruence?

Score: _____/3

(2) Unconditional Positive Regard

Demonstrate unconditional positive regard	**Exceeds Expectation (3)**	**Meets Expectation (2)**	**Near Expectation (1)**
Encouragers (i.e., minimal encouragers, such as head nodding, 'hmm; openers, such as 'tell me more about that')	Demonstrates appropriate use of encouragers to develop a therapeutic relationship with the child (85% of the session).	Demonstrates appropriate use of encouragers to develop a relationship with the child (70% of the session).	Lack use of encouragers, impacting the development of the therapeutic relationship development (less than 70% of the session).
Validating (i.e., reflection client's feelings or content. while conveying a non-judgmental attitude through verbal and nonverbal communication)	Demonstrates appropriate use of validation techniques through reflecting content and feelings (85% of session).	Demonstrates appropriate use of validation techniques through reflecting content and feelings (70% of session.)	Demonstrates inconsistency in reflecting content and feelings with client that does not match what the client is conveying (less than 70%).
Goals of Counseling (i.e., counselor collaborates with client to establish specific, measureable, attainable, realistic, and timely goals related to trauma).	Demonstrates consistent ability to establish therapeutic goals with client to appropriately address trauma (85% of the session).	Demonstrates consistent ability to establish therapeutic goals with client to appropriately address trauma (70% of the session).	Demonstrates inconsistent ability to establish therapeutic goals with client (less than 70% of the session; i.e., not addressing trauma or trauma symptomology).
Focus of Counseling (i.e., counselors ability to focus client on his or her therapeutic goals surrounding trauma)	Demonstrates effective ability to direct focus of counseling session to attain goals related to trauma (85% of the session).	Demonstrates effective ability to direct focus of counseling session to attain goals related to trauma (70% of the session).	Demonstrates inconsistency in focus of counseling (less than 70% of the session; i.e., lacks directing or redirecting focus of counseling on goal attainment related to trauma).

How well does the counselor demonstrate unconditional positive regard?

Score: _____/12

(3) Safety

Skills Phase 1 Safety	**No opportunity or not appropriate to do**	**Had opportunity, appropriate, but did not do**	**Had opportunity, appropriate and did adequately**
Suicide assessment			
Homicide assessment			
Assessing for abuse (verbal)			
Assessing for behavioral evidence of abuse (e.g., looking for bruises)			
Completing trauma assessment			

Did the counselor ensure safety of the child? (No if middle box is checked)

1	**2**
Counselor does not effectively ensure safety of the child *(at least one middle box is checked: 'had opportunity, but did not')*	Counselor effectively ensured safety of the child *(middle box is not checked)*

Score: _____/2

(if score is '1' counselor did not adequately complete phase one and should reassess)

(4) Managing Emotions

Skills Phase 3 Managing Emotions	**No opportunity or not appropriate to do**	**Had opportunity, appropriate, but did not do**	**Had opportunity, appropriate and did adequately**
Setting limits *(e.g., time limits in counseling, taking turns, etc.)*			
Teaching boundaries *(e.g., safe touch)*			
Modeling appropriate behavior *(e.g., tone of voice, communication)*			
Teach child to identify a range of emotions *(e.g., feelings chart)*			
Teach child to express emotions and communicate with adults and peers *(e.g., role-playing)*			
Teach child relaxation techniques to use when triggered by the trauma*(e.g., deep breathing, grounding techniques, mindfulness).*			
Facilitate child in coming up with coping skills to use when they are triggered by the traumatic event in session and through homework *(e.g., listing to music, punching a pillow, feelings jar, etc).*			
Completing trauma assessment (10th session)			

0	1	2
Counselor does not effectively facilitate the third pillar of managing emotions *(two or more middle boxes are checked: 'had opportunity, but did not')*	Counselor effectively facilitates the third pillar of managing emotions *(one middle box is not checked)*	Counselor effectively facilitate the third pillar of managing emotions *(no middle boxes are checked)*

How effectively did the counselor facilitate the pillar of managing emotions with the child?

(if score is '0' counselor did not adequately complete phase three and should reassess)

Score: _____/3

Overall Score for Phase three

Overall Phase Three Score: _____/20

APPENDIX B
UNIVERSITY AND SCHOOL DISTRICT STUDY APPROVALS

University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Approval of Human Research

From: **UCF Institutional Review Board #1**
FWA00000351, IRB00001138

To: **Glenn William Lambie** and Co-PIs: **Jacqueline Richelle Joe, Jon Borland, Mary K Perleoni, Viki Price Kelchner**

Date: **August 15, 2018**

Dear Researcher:

On 08/15/2018 the IRB approved the following modifications until 07/05/2019 inclusive:

Type of Review:	IRB Addendum and Modification Request Expedited Review
Modification Type:	Increased Study Population to 300
Project Title:	Influence of School-based Counseling Services on Elementary School Students
Investigator:	Glenn William Lambie
IRB Number:	SBE-15-11547
Funding Agency:	
Grant Title:	
Research ID:	N/A

The scientific merit of the research was considered during the IRB review. The Continuing Review Application must be submitted 30 days prior to the expiration date for studies that were previously expedited, and 60 days prior to the expiration date for research that was previously reviewed at a convened meeting. Do not make changes to the study (i.e., protocol, methodology, consent form, personnel, site, etc.) before obtaining IRB approval. A Modification Form **cannot** be used to extend the approval period of a study. All forms may be completed and submitted online at https://iris.research.ucf.edu .

If continuing review approval is not granted before the expiration date of 07/05/2019, approval of this research expires on that date. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

Use of the approved, stamped consent document(s) is required. The new form supersedes all previous versions, which are now invalid for further use. Only approved investigators (or other approved key study personnel) may solicit consent for research participation. Participants or their representatives must receive a copy of the consent form(s).

All data, including signed consent forms if applicable, must be retained and secured per protocol for a minimum of five years (six if HIPAA applies) past the completion of this research. Any links to the identification of participants should be maintained and secured per protocol. Additional requirements may be imposed by your funding agency, your department, or other entities. Access to data is limited to authorized individuals listed as key study personnel.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

This letter is signed by:

Signature applied by Gillian Morien on 08/15/2018 10:04:55 AM EDT

Designated Reviewer

Contract#: SA-1819-68-BN
Approval Date: 6.19.18

Version: 05/16/2018

MEMORANDUM OF UNDERSTANDING
Between
THE UNIVERSITY OF CENTRAL FLORIDA
By Its COLLEGE OF EDUCATION & HUMAN PERFORMANCE
and
THE SCHOOL BOARD OF SEMINOLE COUNTY, FLORIDA

This Agreement is entered into between The School Board of Seminole County, Florida (hereafter referred to as SBSC) and the College of Education & Human Performance of the University of Central Florida, on behalf of the UCF Board of Trustees, (hereafter referred to as UCF-CEDHP).

WHEREAS, the parties wish to develop a collaboration between SBSC and UCF-CEDHP: (a) to provide a school-based counseling intervention program (e.g., counseling services) to high need students and families at Hamilton Elementary School Midway Elementary School, and Pine Crest Elementary School; (b) to promote endeavors between SBSC and UCF-CEDHP; (c) to continue research examining the impact of the school-based counseling intervention program (e.g., individual and group counseling, family therapy, mentorship programs, parent education) on elementary school students' academic achievement and social-emotional development; and (d) to commence the development of a satellite UCF Community Counseling & Research Center (CCRC) at Hamilton Elementary School, Midway Elementary School, and Pine Crest Elementary School, serving as practicum counseling sites for graduate family counselors-in-training, mental health counselors-in-training, and school counselors-in-training (offering individual and family counseling services after school to students and families - e.g., appointments with students and families from [a] 3:00 to 3:50, [b] 4:00 to 4:50, and [e] 5:00 to 5:50).

THEREFORE, THE PARTIES AGREE AS FOLLOWS:

A. Obligations of UCF's College of Education & Human Performance (UCF-CEDHP)

A-1. A UCF-CEDHP faculty expert (Glenn W. Lambie. Ph.D.; hereafter referred to as the Principal Investigator) will design and oversee the implementation of the school-based counseling intervention program at Hamilton Elementary School, Midway Elementary School, and Pine Crest Elementary School.

A-2. The school-based counseling intervention program of focus will be determined by (i) the availability of appropriate school counseling student-interns and counseling practicum students; (ii) children necessitating counseling services; (iii) the availability of appropriate counseling spaces (ensuring confidentiality and suitable supervisory practices) within the school setting; and (iv) the appropriateness of school setting to support research examining

APPENDIX C
ADDITIONAL INSTRUMENTATION AND COMMUNICATION WITH PARTICIPANTS

All recruitment materials, instruments, demographic form, informed consent forms can be found on https://ccie.ucf.edu/scps/

REFERENCES

Abram, K. M., Teplin, L. A., Charlse, D. R., Longworth, S. L., McClelland, G. M., & Dulcan, M. K. (2004). Posttramatic stress disorder and trauma in youth in juvenile detention. *Archives of General Psychiatry, 61*, 403-410.

Achenbach, T. M. (1992). *Manual for the child behavior checklist / 2-3 and 1992 Profile.* Burlington, VT: University of Vermont Department of Psychiatry.

Achenbach, T. M. (2009). The Achenbach System of Empirically Based Assessment (ASEBA): *Development, Findings, Theory, and Applications.* Burlington, VT: University of Vermont Research Center for Children, Youth, & Families.

Achenbach, T. M., & Rescorla, T. (2001). *Manual for the ASEBA school-age forms and profile*. Burlington, VT: University of Vermont, Department of Psychiatry.

Alford, J.D., Mahone, C., & Fielstein, E.M. (1988). Cognitive and behavioral sequelae of combat: Conceptualization and implications for treatment. *Journal of Traumatic Stress, 1*(4), 489-501.

Al-Hendawi, M., Keller, C., & Cloninger, L. (2016). A psychometric analysis of the Child Behavior Checklist for elementary school children in Qatar. *Assessment for Effective Intervention*, *41*(4), 220-229.

Alvord, M. K., & Grados, J. J. (2005). Enhancing resilience in children: A protective approach. *Professional Psychology, 36*, 238-245.

American Academy of Pediatrics' Committee on School Health. (2014). Policy statement: School-based mental health services. *Pediatrics*, *113*(6), 1839–1845.

American Psychiatric Association. (1980). *Diagnostic and statistical manual of mental disorders* (3rd ed.). Washington, DC: Author.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th ed., text rev.). Washington, DC: Author.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.

American Psychological Association (2017). *Children and trauma: Update for mental health professionals*. Retrieved from http://www.apa.org/pi/families/resources/children-trauma-update.aspx

Anthony, J. L. (2016). For which children of economic disadvantage and in which instructional contexts does Earobics Step 1 improve kindergarteners' literacy? *Journal of Research on Educational Effectiveness*, *9*(1), 54-76.

American School Counselor Association. (2012). *ASCA national model: A framework for school counseling programs.* (3rd ed.). Alexandria, VA: Author.

American School Counselor Association. (2014*). Mindsets and Behaviors for Student Success: K-12 College and Career-Readiness Standards for Every Student*. Alexandria, VA: Author.

American School Counselor Association. (2016). *The ASCA Ethical Standards for School Counselors.* Alexandria, VA: Author.

Asay, T. P., & Lambert, M. J. (1999). *The heart and soul of change: What works in therapy*. Washington, DC: American Psychological Association.

Association for Play Therapy. (2017). *Clarifying the use of play.* Retrieved from https://www.a4pt.org/page/ClarifyingUseofPT

Atkinson, C., & Woods, K. (2003). Motivational interviewing strategies for disaffected secondary school students: A case example. *Educational Psychology in Practice, 19*(1), 49-64.

Axline, V. (1969). *Play therapy*. New York, NY: Random House.

Bai, H., & Clarke, M. H. (2019) *Propensity score methods and applications.* University of North Carolina, Chapel Hill.

Barr, D. A. (2018). When trauma hinders learning. *Phi Delta Kappan, 99*(6), 39-44.

Bartlett, J. D., Griffin, J. L., Spinazzola, J., Fraser, J. G., Noroña, C. R., Bodian, R., ... & Barto, B. (2018). The impact of a statewide trauma-informed care initiative in child welfare on the well-being of children and youth with complex trauma. *Children and Youth Services Review, 84*, 10-117.

Bartlett, J.E., Kotrlik, J.W., & Higgins, C.C. (2001) Organizational research: Determining appropriate sample size in survey research. *Information Technology, Learning, and Performance Journal, 19*, 43-50.

Bath, H. (2008). The three pillars of trauma-informed care. *Reclaiming Children and Youth, 17(*3), 17-21.

Bean, T., Mooijaart, A., Eurelings-Bontekoe, E., & Spinhoven, P. (2007). Validation of the teacher's report form for teachers of unaccompanied refugee minors. *Journal of Psychoeducational Assessment, 25*(1), 53-68.

Bear, L., Finer, R., Guo, S., & Lau, A. S. (2014). Building the gateway to success: An appraisal of progress in reaching underserved families and reducing racial disparities in school-based mental health. *Psychological Services*, *11*(4), 388-397. doi:10.1037/a0037969

Beck, A. T., Ward, C. H., & Mendelson, M. (1961). An inventory for measuring depression. *Archives of General Psychiatry, 4*, 53-63.

Becker, J., Greenwald, R., & Mitchell, C. (2011). Trauma-informed treatment for disenfranchised urban children and youth: An open trial. *Child and Adolescent Social Work Journal, 28*(4), 257-272.

Becker, S. P., & Kerig, P. K. (2011). Posttraumatic stress symptoms are associated with the frequency and severity of delinquency among detained boys. *Journal of Clinical Child and Adolescent Psychology, 40*(5), 765-771.

Berliner, L., & Kolko, D. J. (2016). Trauma informed care: A commentary and critique. *Child Maltreatment, 21*(2), 168-172.

Bernstein, G., Layne, A., Egan, E., & Tennison, D. (2005). School-based interventions for anxious children. *Journal of American Academic Child Adolescent Psychiatry, 44(11),* 1118-1127. doi:10.1097/01.chi.0000177323.40005.a1

Bethell, C. D., Kogan, M. D., Strickland, B. B., Schor, E. L., Robertson, J., & Newacheck, P. W. (2011). A national and state profile of leading health problems and health care quality for US children: key insurance disparities and across-state variations. *Academic Pediatrics, 11*(3), S22-S33.

Bills, L. J., & Bloom, S. (1998). From chaos to sanctuary: Trauma-based treatment for women in a state hospital system. *Community Works*, 2-18.

Blodgett, C. (2015). *No school alone: How community risks and assets contribute to school and youth success*. Washington: Washington State Office of Financial Management

Bloom, S. L. (1997). *Creating sanctuary: Toward the evolution of sane societies.* New York: Routledge.

Bloom, S. L. (1999). Trauma-theory abbreviated. *Community Works*, 2-17.

Bloom, S. L. (2010). Bridging the black hole of trauma: The evolutionary necessity of the arts. *Psychotherapy and Politics International,* 8(3), 198-212.

Bloom, S, L. (2013). *The sanctuary model. Treating complex traumatic stress disorders in children and adolescents. Scientific foundations and therapeutic models.* Gilford Press.

Bodenhorn, N. (2005). American School Counselor Association ethical code changes relevant to family work. *The Family Journal*, *13*(3), 316–320. doi:10.1177/1066480705276292.

Braveman, P. (2006). Health disparities and health equity: Concepts and measurement. *Public Health, 27*, 167-194.

Briggs-Gowan, M. J., Carter, A. S., Clark, R., Augustyn, M., McCarthy, K. J., & Ford, J. D. (2010). Exposure to potentially traumatic events in early childhood: Differential links to emergent psychopathology. *Journal of Child Psychology and Psychiatry, 51*(10), 1132-1140.

Bright, C. L., Raghavan, R., Kliethermes, M. D., Juedemann, D., & Dunn, J. (2010). Collaborative implementation of a sequenced trauma-focused intervention for youth in residential care. *Residential Treatment for Children & Youth, 27*(2), 69-79

Bruce, E. J., & Waelde, L. C. (2008). Relationships of ethnicity, ethnic identity, and trauma symptoms to delinquency. *Journal of Loss and Trauma, 13*(5), 395-405.

Cahit, K. (2015). Internal validity: A must in research deigns. *Educational Research and Reviews, 10*(2). 111-118

Cain, D. J. (2001). *Defining characteristics, history, and evolution of humanistic psychotherapies*. Washington, DC: American Psychological Association.

Caliendo, M., & Kopeinig, S. (2008). Some practical guidance for the implementation of propensity score matching. *Journal of economic surveys, 22(1)*, 31-72.

Capp, G. (2015). Our community, our schools: A case study of program design for school-based mental health services. *Children & Schools, 37*(4), 241-248. doi:10.1093/cs/cdv030

Carello, J., & Butler, L. D. (2015). Practicing what we teach: Trauma-informed educational practice. *Journal of Teaching in Social Work, 35*(3), 262-278.

Christian, L. M., Dillman, D. A., & Smyth, J. D. (2008). The effects of mode and format on answers to scalar questions in telephone and web surveys. *Advances in Telephone Survey Methodology*, 12, 250-275.

Chou, C.-Y., Su, Y.-J., Wu, H.-M., & Chen, S.-H. (2011). Child physical abuse and the related PTSD in taiwan: The role of chinese cultural background and victims' subjective reactions. *Child Abuse & Neglect: The International Journal, 35*(1), 58–68.

Cohen, J. A., Mannarino, A. P., & Deblinger, E. (2016*). Treating trauma and traumatic grief in children and adolescents.* Guilford.

Collins, P. H. (2016). *Shifting the center: Race, class, and feminist theorizing about motherhood in mothering.* London: Routledge.

Cook, A., Spinazzola, J., Ford, J., Lanktree, C., Blaustein, M., Cloitre, M., ... & Mallah, K. (2017). Complex trauma in children and adolescents. *Psychiatric Annals, 35*(5), 390-398.

Cook, B. L., Barry, C. L., & Busch, S. H. (2013). Racial/ethnic disparity trends in children's mental health care access and expenditures from 2002 to 2007. *Health Services Research, 48*(1), 129-149.

Cooke, W. H., Salinas J., McManus J. G., Ryan K. L., Rickards C.A., Holcomb J. B., & Convertino V. A. (2005). Heart period variability in trauma patients may predict mortality and allow remote triage. *Aviat Space Environ Med, 77*, 1107–1112.

Cochran, J. L., & Cochran, N. H. (2017). Effects of child-centered play therapy for students with highly-disruptive behavior in high-poverty schools. *International Journal of Play Therapy, 26*(2), 59-72.

Council for Accreditation of Counseling and Related Education Programs. (2016). CACREP standards. Retrieved from https://www.cacrep.org/for-programs/2016-cacrep-standards/

Creswell, J. (2013) *Research design: Qualitative, quantitative and mixed methods* (4th ed.). Thousand Oaks, CA: Sage

Dalenberg, C. J., Brand, B. L., Gleaves, D. H., Dorahy, M. J., Loewenstein, R. J., Cardena, E., & ... Spiegel, D. (2012). Evaluation of the evidence for the trauma and fantasy models of dissociation. *Psychological Bulletin, 138*(3), 550-588.

de Arellano, M. A. R., Lyman, D. R., Jobe-Shields, L., George, P., Dougherty, R. H., Daniels, A. S., ... & Delphin-Rittmon, M. E. (2014). Trauma-focused cognitive-behavioral therapy for children and adolescents: Assessing the evidence. *Psychiatric Services, 65*(5), 591-602.

Dedrick, R. F., Tan, T. X., & Marfo, K. (2008). Factor structure of the Child Behavior Checklist/6-18 in a sample of girls adopted from China. *Psychological Assessment, 20*(1), 70-75.

Department of Health and Human Services. (2015). *Child maltreatment 2015*. Retrieved May, 11, 2018, from https://www.acf.hhs.gov/sites/default/files/cb/cm2015.pdf

Dube, S. R., Felitti, V. J., Dong, M., Chapman, D. P., Giles, W. H., & Anda, R. F. (2003). Childhood abuse, neglect, and household dysfunction and the risk of illicit drug use: The adverse childhood experiences study. *Pediatrics, 111*(3), 564-572.

Elhai, J. D., Layne, C. M., Steinberg, A. S., Vrymer, M. J., Briggs, E. C., Ostrowski, S. A., & Pynoos, R. S. (2013). Psychometric properties of the UCLA PTSD Reaction Index. Part 2: Investigating factor structure findings in a national clinic-referred youth sample. *Journal of Traumatic Stress, 26*, 10-18.

Farahmand, F. K., Grant, K. E., Polo, A. J., & Duffy, S. N. (2011). School-based mental health and behavioral programs for low income, urban youth: A systematic and meta analytic review. *Clinical Psychology: Science and Practice, 18*(4), 372–390. doi:10.1111/j.1468-2850.2011.01265.x

Farkas, L., Cyr, M., Lebeau, T. M., & Lemay, J. (2010). Effectiveness of MASTR/EMDR therapy for traumatized adolescents. *Journal of Child & Adolescent Trauma, 3*(2), 125-142.

Felitti, V. J. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: the adverse childhood experiences study. *American Journal of Preventive Medicine, 14*(4), 245-258.

Finkelhor, D., Turner, H. A., Shattuck, A., & Hamby, S. L. (2013). Violence, crime, and abuse exposure in a national sample of children and youth: an update. *JAMA Pediatrics, 167*(7), 614-621.

Finkelhor, D., Turner, H. A., Shattuck, A., & Hamby, S. L. (2015). Prevalence of childhood exposure to violence, crime, and abuse: Results from the national survey of children's exposure to violence. *JAMA pediatrics, 169*(8), 746-754.

Flores, G., Lesley, B. (2014). Children and US federal policy on health and health care: Seen but not heard. *The Journal of American Medical Association, 17*(1), 1-9. doi:10.1001/jamapediatrics.2014.1701

Foderaro, J. F., & Ryan, R. A. (2000). Mapping the course of recovery. *London-Association of Therapeutic Communities, 21*(2), 93-104.

Ford, J. D., & Courtois, C. A. (2013). *Treating complex traumatic stress disorders in children and adolescents: Scientific foundations and therapeutic models.* New York: Guilford Press.

Ford, J. D., Racusin, R., Rogers, K., Ellis, C., Schiffman, J., Ribbe, D., & Edwards, J. (2002). *Traumatic Events Screening Inventory for Children (TESI-C) Version 8.4.* Dartmouth, VT: National Center for PTSD and Dartmouth Child Psychiatry Research Group.

Gall, M. D., Gall., J. P., & Borg, W. R. (2007). *Educational research: An introduction* (8th ed.). Boston, MA: Allyn & Bacon.

Gall, M. D., Gall., J. P., & Borg, W. R. (2010). *Applying educational research* (6th ed.). Boston, MA: Allyn & Bacon.

Gamble, B. E., & Lambros, K. M. (2014). Provider perspectives on school-based mental health for urban minority youth: Access and services. *Journal of Urban Learning, Teaching, and Research*, *10*, 25-38.

Gardiner, E., Iarocci, G., & Moretti, M. (2017). Integrative care for adolescents with dual diagnosis: Considering trauma and attachment within an innovative model for clinical practice. *Journal of Mental Health Research in Intellectual Disabilities, 10*(4), 321-344.

Garza, Y., & Bratton, S. C. (2005). School-based child-centered play therapy with Hispanic children: Outcomes and cultural considerations. *International Journal of Play Therapy, 14*(1), 51-79.

Glass, G. (1980). *Quasi-experiments: The case of interrupted time series.* Washington, D.C: American Educational Research Association

Goleman, D. (1995). *Emotional Intelligence: Why it can matter more than iq.* New York: Bantam Books.

Greenbaum, P. E., & Dedrick, R. F. (1998). Hierarchical confirmatory factor analysis of the Child Behavior Checklist/4–18. *Psychological Assessment, 10*(2), 149.

Greenwald, R. (2005). *Child trauma handbook: A guide for helping trauma-exposed children and adolescents.* New York: Haworth Maltreatment and Trauma Press.

Greenwald, R., Siradas, L., Schmitt, T. A., Reslan, S., Fierle, J., & Sande, B. (2012). Implementing trauma-informed treatment for youth in a residential facility: First-year outcomes. *Residential Treatment for Children & Youth, 29*(2), 141-153.

Gunnar, M. R., & Barr, R. G. (1998) Stress, early brain development, and behavior. *Young Children, 11*(1), 1-14.

Hair, J. F., Black, W. C., Babbin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis* (6th ed.). Upper Saddle River, NJ: Prentice Hall.

Hallett, R. E., Westland, M. A., & Mo, E. (2018). A trauma-informed care approach to supporting foster youth in community college. *New Directions for Community Colleges, 1*(181), 49-58.

Hammersley, M. (1987). Some notes on the terms 'validity' and 'reliability.' *British Educational Research Journal, 13*(1). 73-82.

Heatherington, L., Friedlander, M. L., Diamond, G. M., Escudero, V., & Pinsof, W. M. (2015). 25 years of systemic therapies research: Progress and promise. *Psychotherapy Research*, *25*(3), 348–364. doi:10.1080/10503307.2014.983208

Herman, J. L. (1981) *Father-daughter incest*. Cambridge, MA: Harvard University Press.

Herman, J. L. (1992). *Trauma and Recovery*. New York: Basic Books.

Herman, K., Reinke, W., Frey, A., & Shepard, S. (2014). *Motivational interviewing in schools: Strategies for engaging parents, teachers and students.* New York, NY: Springer.

Hodgkinson, S., Godoy, L., Beers, L. S., & Lewin, A. (2017). Improving mental health access for low-income children and families in the primary care setting. *Pediatrics*, *139*(1), 1-9.

Hollin, C. R., & Palmer, E. J. (2003). Level of service inventory-revised profiles of violent and nonviolent prisoners. *Journal of Interpersonal Violence, 18*(9), 1075-1086.

Hopper, K., Bassuk, E., & Olivet, J. (2010). Shelter from the storm: Trauma-informed care in homelessness service settings. *The Open Health Services and Policy Journal, 3*(10), 80-100.

Jacob, B. A. (2007). The challenges of staffing urban schools with effective teachers. *The Future of Children,* 129-153.

James, B. (1994). *Handbook for treatment of attachment trauma problems in children.* New York, NY: Lexington Books.

Janis, I. L. (1982). *Decision making under stress*. Free Press: New York.

January, S.-A. A., Lambert, M. C., Epstein, M. H., Spooner, M., & Gebreselassie, T. (2018). Students at Enrollment into Community-Based Systems of Care: Characteristics and Predictors of Functioning in School. *Journal of Emotional and Behavioral Disorders, 26*(2), 67–78.

Jayawardene, W. P., Lohrmann, D. K., Erbe, R. G., & Torabi, M. R. (2017). Effects of preventive online mindfulness interventions on stress and mindfulness: A meta-analysis of randomized controlled trials. *Preventive Medicine Reports, 5*, 150-159.

Jaycox, L. H., Cohen, J. A., Mannarino, A. P., Walker, D. W., Langley, A. K., Gegenheimer, K. L., ... & Schonlau, M. (2010). Children's mental health care following Hurricane Katrina: A field trial of trauma-focused psychotherapies. *Journal of Traumatic Stress: Official Publication of the International Society for Traumatic Stress Studies, 23*(2), 223-231.

Jaycox, L. H., Langley, A. K., & Dean, K. L. (2005). *Support for students exposed to trauma: The SSET Program.* Unpublished manual.

Juszczak, L., Melinkovich, P., & Kaplan, D. (2003). Use of health and mental health services by adolescents across multiple delivery sites. *Journal of Adolescent Health*, *32*(6), 108-118. http://dx.doi.org/10.1016/S1054-139X(03)00073-9

Kamen, D. G. (2009). How can we stop our children from hurting themselves? Stages of change, motivational interviewing, and exposure therapy applications for non-suicidal self-injury in children and adolescents. *International Journal of Behavioral Consultation and Therapy, 5*(1), 106-123.

Kariuki, S. M., Abubakar, A., Murray, E., Stein, A., & Newton, C. C. (2016). Evaluation of psychometric properties and factorial structure of the pre-school Child Behavior Checklist at the Kenyan Coast. *Child and Adolescent Psychiatry and Mental Health*, *10,* 1-10. doi:10.1186/s13034-015-0089-9

Kataoka, S. H., Stein, B. D., Jaycox, L. H., Wong, M., Escudero, P., Tu, W., ... & Fink, A. (2003). A school-based mental health program for traumatized Latino immigrant children. *Journal of the American Academy of Child & Adolescent Psychiatry, 42*(3), 311-318.

Kelchner, V. P., Perleoni, M. K., & Lambie, G. W. (2019). An investigation of change: elementary students with an individual education program participating in a school-based mental health counselling intervention. *Journal of Research in Special Educational Needs*. 1-9

Kerig, P. K., Ward, R. M., Vanderzee, K. L., & Moeddel, M. A. (2009). Posttraumatic stress as a mediator of the relationship between trauma and mental health problems among juvenile delinquents. *Journal of Youth and Adolescence, 38*(9), 1214-1225.

Kiser, L. J., Medoff, D. R., & Black, M. M. (2010). The role of family processes in childhood traumatic stress reactions for youths living in urban poverty. *Traumatology*, 6(2), 33-42

Knell, S. M. (1998). Cognitive-behavioral play therapy. *Journal of Clinical Child Psychology,*

27(1), 28-33.

Lambie, G. W., Mullen, P. R., Swank, J. M., & Blount, A. (2018). The Counseling Competencies Scale: Validation and refinement. *Measurement and Evaluation in Counseling and Development*, 51(1), 1-15.

Langley, A. K., Gonzalez, A., Sugar, C., A., Solis, D., & Jaycox, L. (2015). Bounce back Effectiveness of an elementary school-based intervention for multicultural children exposed to traumatic events. *Journal of Consulting and Clinical Psychology, 83*(5), 835 865.

Larson, S., Spetz, J., Brindis, C. D., & Chapman, S. (2017). Characteristic differences between school-based health centers with and without mental health providers: a review of national trends. *Journal of Pediatric Health Care, 31*(4), 484-492.

LeDoux, J. (1996). *The emotional brain: The mysterious underpinnings of emotional life*. New York: Simon and Schuster.

Liber, J. M., De Boo, G. M., Huizenga, H., & Prins, P. J. (2013). School-based intervention for childhood disruptive behavior in disadvantaged settings: A randomized controlled trial with and without active teacher support. *Journal of Consulting and Clinical Psychology, 81*(6), 975-999.

Lieberman, A. F., & Van Horn, P. (2005). *Don't hit my mommy. A manual for child-parent psychotherapy with young witnesses of family violence*. Washington, DC: Zero to Three.

Lieberman, A. F., Van Horn, P., & Ippen, C. G. (2005). Toward evidence-based treatment: Child-parent psychotherapy with preschoolers exposed to marital violence. *Journal of the American Academy of Child & Adolescent Psychiatry, 44*(12), 1241-1248.

Lin, Y., & Bratton, S. C. (2015). A meta-analytic review of child-centered play therapy approaches. *Journal of Counseling and Development, 93*(1), 45-58. doi:10.1002/j.1556-6676.2015.00180.x

Link, B. G., & Phelan, J. (1995). Social conditions as fundamental causes of disease. *Journal of Health and Social Behavior, 6(2)*80-94.

Liu, J., Cheng, H., & Leung, P. L. (2011). The application of the preschool child behavior checklist and the caregiver-teacher report form to mainland Chinese children: Syndrome structure, gender differences, country effects, and inter-informant agreement. *Journal of Abnormal Child Psychology, 39*(2), 251-264.

Lyshak-Stelzer, F., Singer, P., St. John, P., & Chemtob, C. M. (2007). Art therapy for adolescents with posttraumatic stress disorder symptoms: A pilot study. *Art Therapy: Journal of the American Art Therapy Association, 24*(4), 163–169.

Mahmoudi-Gharaei, J., Bina, M., Yasami, M.T., Emami, A., & Naderi, F. (2006). Group play therapy effect on Bam earthquake related emotional and behavioral symptoms in preschool children: A before-after trial. *Iran Journal of Pediatrics, 16*(2), 137-142.

Meany-Walen, K.K. & Teeling, S. (2016). Adlerian play therapy with students with externalizing behaviors and poor social skills. *International Journal of Play Therapy, 25*, 2, 64-67.

Marrs, R. W. (1995). A meta-analysis of bibliotherapy studies. *American Journal of Community Psychology, 23*(6), 843-870. doi:10.1007/BF02507018

Martin, S. L., Ashley, O. S., White, L., Axelson, S., Clark, M., & Burrus, B. (2017). Incorporating trauma-informed care into school-based programs. *Journal of School Health, 87*(12), 958-967.

McCabe, P. C., & Schneider, M. (2009). What does their saliva say? Salivary cortisol levels in children exposed to severe stressors. *Communique, 37*(8), 26-28.

Mcloughlin, C. S., & Noltemeyer, A. L. (2010). Research into factors contributing to discipline use and disproportionality in major urban schools. *Current Issues in Education, 13*(2).

Meany-Walen, K. K., Teeling, S., Davis, A., Artley, G., & Vignovich, A. (2016). Effectiveness of a play therapy intervention on children's externalizing and off-task behaviors. *Professional School Counseling, 20*(1), 1096-2409.

Mellin, E. A. (2009). Responding to the crisis in children's mental health: Potential roles for the counseling profession. *Journal of Counseling & Development*, *87*(4), 501-506.

Montañez, E., Berger-Jenkins, E., Rodriguez, J., McCord, M., & Meyer, D. (2015). Turn 2 Us: Outcomes of an urban elementary school-based mental health promotion and prevention program serving ethnic minority youths. *Children & Schools, 37*(2), 100-107. doi:10.1093/cs/cdv004

Moruzzi, S., Pesenti-Gritti, P., Brescianini, S., Salemi, M., Battaglia, M., & Ogliari, A. (2010). Clumsiness and psychopathology: Causation or shared etiology? A twin study with the CBCL 6–18 questionnaire in a general school-age population sample. *Human Movement Science, 29*(2), 326-338.

Mueser, K. T., Rosenberg, S. D., Fox, L., Salyers, M. P., Ford, J. D., & Carty, P. (2001). Psychometric evaluation of trauma and posttraumatic stress disorder assessments in persons with severe mental illness. *Psychological Assessment, 13*(1), 110-117.

National Center for Educational Statistics. (2015). *Digest of educational statistics.* Retrieved from https://nces.ed.gov/pubs2016/2016014.pdf

National Center for Educational Statistics. (2018). *Fast facts: Title I.* Retrieved from https://nces.ed.gov/fastfacts/display.asp?id=158

The National Child Traumatic Stress Network. (2005). *How early childhood trauma is unique.* Retrieved from https://www.nctsn.org/what-is-child-trauma/trauma-types/early-childhood-trauma/effects

The National Child Traumatic Stress Network. (2012). *Culturally modified tf-cbt presentation.* Retrieved from https://www.nctsn.org/resources/culturally-modified-tf-cbt-case-presentation

The National Child Traumatic Stress Network. (2018). *Screening and assessment.* Retrieved from https://www.nctsn.org/what-is-child-trauma/trauma-types/complex-trauma/screening-and-assessment

National Institute of Health. (2010). *Post-traumatic stress disorder overview*. Retrieved from https://www.nimh.nih.gov/health/topics/post-traumatic-stress-disorder-ptsd/index.shtml

National Institute of Mental Health. (2016). Child and Adolescent Mental Health. Retrieved from https://www.nimh.nih.gov/health/topics/child-and-adolescent-mental-health/index.shtml

National Survey of Children's Health. (2017). *Adverse childhood experiences*. Retrieved from http://www.childhealthdata.org/learn/NSCH

Noltemeyer, A., & Mcloughlin, C. S. (2010). Patterns of exclusionary discipline by school typology, ethnicity, and their interaction. *Penn GSE Perspectives on Urban Education, 7*(1), 27-40

Nygaard, E., Jensen, T.K., & Dyb, G. (2012) Stability of posttraumatic stress reaction factors and

their relation to general mental health problems in children: A longitudinal study. *Journal of Clinical Child and Adolescent Psychology, 41*(1), 15-26.

Osborne, J. W. (2015). *Best practices in logistic regression*. Thousand Oaks, CA: Sage.

Osborne, J. W. (2013). *Best practices in data cleaning: A complete guide to everything you need to do before and after collecting your data.* Thousand Oaks, CA: Sage.

Osofsky, J., Kronenberg, M., Bocknek, E., & Hansel, T. C. (2015). Longitudinal impact of attachment-related risk and exposure to trauma among young children after Hurricane Katrina. *Child & Youth Care Forum, 44*(4), 493-510.

Overstreet, S., & Mathews, T. (2011). Challenges associated with exposure to chronic trauma: Using a public health framework to foster resilient outcomes among youth. *Psychology in the Schools, 48*(7), 738-754.

Pai, A., Suris, A. M., & North, C. S. (2017). Posttraumatic stress disorder in the DSM-5: Controversy, change, and conceptual considerations. *Behavioral Sciences, 7*(1), 7-12.

Pallant, J. (2016). *SPSS survival manual: A step-by-step guide to data analysis using SPSS* (6th ed.). Maidenhead: Open University Press/McGraw-Hill.

Paylo, M. J. (2011). Preparing school counseling students to aid families: Integrating a family systems perspective. *The Family Journal*, *19*(2), 140–146. doi:10.1177 /1066480710397130

Peng, J.C., Long, H., & Abaci, S. (2012). Power analysis software for educational researchers. *Measurement, Statistics, and Research Design, 80*(2),113-136

Pennebaker, J. (1997) *Opening up: The healing power of expressing emotions.* New York: Guilford Press.

Perfect, M. M., & Morris, R. J. (2011). Delivering school-based mental health services by school psychologists: Education, training, and ethical issues. *Psychology in the Schools, 48*(10), 1049-1063.

Pfiffner, L. J., Rooney, M., Haack, L., Villodas, M., Delucchi, K., & McBurnett, K. (2016). A randomized controlled trial of a school-implemented school-home intervention for ADHD symptoms and impairment. *Journal of the American Academy of Child and Adolescent Psychiatry, 55*, 762-770, 2016.

Porche, M. V., Fortuna, L. R., Lin, J., & Alegria, M. (2011). Childhood trauma and psychiatric disorders as correlates of school dropout in a national sample of young adults. *Child Development, 82*(3), 982-998.

Powers, J. D., Edwards, J. D., Blackman, K. F., & Wegmann, K. M. (2013). Key elements of a successful multi-system collaboration for school-based mental health: In-depth interviews with district and agency administrators. *Urban Review*, *45*, 651-670. doi:10.1007/s11256-013-0239-4

Powers, J. D., Swick, D. C., Wegmann, K. M., & Watkins, C. S. (2016). Supporting prosocial development through school-based mental health services: A multisite evaluation of social and behavioral outcomes across one academic year. *Social Work in Mental Health*, *14*(1), 22-41. doi:10.1080/15332985.2015.1048842

Pynoos, R., Rodriguez, N., Steinberg, A., Stuber, M., & Frederick, C. (1998). *The University of California at Los Angeles Posttraumatic Stress Disorder Reaction Index (UCLA-PTSD RI) for DSM-IV (Revision 1).* Los Angeles, CA: UCLA Trauma Psychiatry Program.

Ray, D. C., Armstrong, S. A., Balkin, R. S., & Jayne, K. M. (2015). Child-centered play therapy

in the schools: Review and meta-analysis. *Psychology in Schools, 52*(2), 107-123.

Ray, D. C., Hull, D. M., Thacker, A. J., Pace, L. S., Swan, K. L., Carlson, S. E., & Sullivan, J. M. (2011). Research in Counseling: A 10-Year Review to Inform Practice. *Journal of Counseling & Development, 89*(3), 349-359.

Real, T. (1997). *I don't want to talk about it: Overcoming the secret legacy of male depression*. New York: Simon and Schuster.

Reback, R. (2010). Schools' mental health services and young children's emotions, behavior, and learning. *Journal of Policy Analysis and Management*, *29*(4), 698-725. doi:10.1002 /pam.20528

Reyes, C. J., & Asbrand, J. P. (2005). A longitudinal study assessing trauma symptoms in sexually abused children engaged in play therapy. *International Journal of Play Therapy, 14*(2), 25-47.

Ribbe, D. (1996). Psychometric review of Traumatic Event Screening Instrument for Children (TESI-C). *Measurement of Stress, Trauma, and Adaptation, 21*(6), 386-387.

Richards, M. M., Bowers, M. J., Lazicki, T., Krall, D., & Jacobs, A. K. (2008). Caregiver involvement in the intensive mental health program: Influence on changes in child functioning. *Journal of Child and Family Studies*, *17*, 241-252. doi:10.1007/s10826-007 -9163-0

Rivard, J. C., Bloom, S. L., McCorkle, D., & Abramovitz, R. (2005). Preliminary results of a study examining the implementation and effects of a trauma recovery framework for youths in residential treatment. *Therapeutic Community: The International Journal for Therapeutic and Supportive Organizations, 26*(1), 83–96.

Rodriguez, N., Steinberg, A. S., Saltzman, W. S., & Pynoos, R. S. (2001a). *PTSD Index: psychometric analyses of the adolescent version. Symposium conducted at the Annual Meeting of the International Society for Traumatic Stress Studies*. New Orleans: LA.

Rodriguez, N., Steinberg, A.S., Saltzman, W.S., & Pynoos, R.S. (2001b). *PTSD Index: preliminary psychometric analyses of child and parent versions. Symposium conducted at the Annual Meeting of the International Society for Traumatic Stress Studies*. New Orleans: LA.

Rogers, C. (1957). The necessary and sufficient conditions of therapeutic personality change. *Journal of Consulting Psychology, 21*(2), 95-103.

Rogers, C. (1959). A theory of therapy, personality and interpersonal relationships as developed in the client-centered framework. In S. Koch (Ed.), *Psychology: A study of science*. New York, NY: McGraw-Hill.

Rosenbaum, P. R., & Rubin, D. B. (1983). The central role of propensity score in observation studies for causal effects. *Biometrika, 70*(1), 41-55.

Roussos, A., Goenjian, A. K., Steinberg, A. M., Sotiropoulou, C., Kakaki, M., Kabakos, C., Karagianni, S., & Manouras, V. (2005). Posttraumatic stress and depressive reactions among children and adolescents after the 1999 earthquake in Ano Liosia, Greece. *American Journal of Psychiatry, 162,* 530-537.

Rosenbaum, P. R., & Rubin, D. B. (1983). The central role of the propensity score in observational studies for causal effects. *Biometrika, 70*, 41–55.

Rubin, D. B. (2001). Using propensity scores to help design observational studies: Application to the tobacco litigation. *Health Services and Outcomes Research Methodology, 2*, 169

188.

Rubin, D. B., & Thomas, N. (1996). Matching using estimated propensity scores: Relating theory to practice. *Biometrics, 52*, 249–264.

Rubin, A., Washburn, M., & Schieszler, C. (2017). Within-group effect-size benchmarks for trauma-focused cognitive behavioral therapy with children and adolescents. *Research on Social Work Practice, 27*(7), 789-801.

Santiago, C. D., Raviv, T., Ros, A. M., Brewer, S. K., Distel, L. L., Torres, S. A., & ... Langley, A. K. (2018). Implementing the Bounce Back trauma intervention in urban elementary schools: A real-world replication trial. *School Psychology Quarterly, 33*(1), 1-9.

Schottelkorb, A. A., Doumas, D. M., & Garcia, R. (2012). Treatment for childhood refugee trauma: A randomized, controlled trial. *International Journal of Play Therapy, 21*(2), 53-73.

Seligman, M. (1992). *Helplessness: on depression, development and death.* New York: W. H. Freeman.

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference.* Boston, MA, US: Houghton, Mifflin.

Snyder, R., Shapiro, S., & Treleaven, D. (2012). Attachment theory and mindfulness. *Journal of Child and Family Studies, 21*(5), 709-717.

Solomon, C., Bierbrauer, S. Harris, S., Belser, C., Wheeler, N., Crunk, E., & Lambie, W. G., (2016). Experiences of caregivers and students in an elementary school-based mental health counseling practicum program. *Journal of Child and Adolescent Counseling, 2*(2), 125-142. doi: 10.1080/23727810.2016.1228771

Stagman, S., & Cooper, J. L. (2010). *Children's mental health: What every policymaker should know.* Retrieved from http://www.nccp.org/publications/pdf/text_929.pdf

Stein, B. D., Elliot, M. N., Tu, W., Jaycox, L. H., Kataoka, S. H., Fink, A., & Wong, M. (2003). School-based interventions for children exposed to violence. *JAMA, 290*(19), 2541-2541.

Steinberg, A. M., Brymer, M., Decker, K., & Pynoos, R. S. (2004). The University of California at Los Angeles Post-Traumatic Stress Disorder Reaction Index. *Current Psychiatry Reports, 6,* 96-100.

Steinberg, A. M., Brymer, M. J., Kim, S., Ghosh, C., Ostrowski, S. A., Gulley, K., Briggs, E. C., & Pynoos, R. S. (2013). Psychometric properties of the UCLA PTSD Reaction Index: Part I. *Journal of Traumatic Stress, 26*, 1-9.

Suliman, S., Mkabile, S. G., Fincham, D. S., Ahmed, R., Stein, D. J., & Seedat, S. (2009). Cumulative effect of multiple trauma on symptoms of posttraumatic stress disorder, anxiety, and depression in adolescents. *Comprehensive Psychiatry, 50*(2), 121-127.

Swank, J. M., Cheung, C., & Williams, S. (2018). Play therapy and psychoeducational school based group interventions: A comparison of treatment effectiveness. *The Journal for Specialists in Group Work, 43*(3), 230-249.

Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed). Upper Saddle River, NJ: Pearson.

Tenenbaum, H. R., & Ruck, M. D. (2007). Are teachers' expectations different for racial minority than for European American students? A meta-analysis. *Journal of educational psychology, 99*(2), 253.

Terr, L. (1990). *Too scared to cry: Psychic trauma in childhood.* New York: Harper and Row.

Thoemmes, F. (2012). Propensity score matching in SPSS. Retrieved from http://arxiv.org/abs/1201.6385

Tolan, P. H., Gorman-Smith, D., & Henry, D (2004). Supporting families in high-risk settings: Proximal effects of the SAFE children prevention program. *Journal of Consulting and Clinical Psychology, 75*, 855-869.

Toth, S.L., Maughan, A., Manly J.T., Spagnola, M., & Cicchetti D. (2002). The relative efficacy of two interventions in altering maltreated preschool children's representational models: implications for attachment theory. *Developmental Psychopathy 1*(14), 887-908.

The Trauma Institute and Child Traumatic Institute. (2015). *The fairy tale: A model for post traumatic growth.* Retrieved from http://www.childtrauma.com/blog/fairy-tale/

Tyler, T. R. (2016). In Jury psychology: Social aspects of trial processes. *Procedural Justice, 20*(1), 47-62.

Tyndall-Lind, A., Landreth, G. L., & Giordano, M. A. (2001). Intensive group play therapy with child witnesses of domestic violence. *International Journal of Play Therapy, 10*(1), 53.

U.S. Department of Agriculture. (2019) *Income eligibility guidelines.* Retrieved April 28, 2019, from https://www.fns.usda.gov/school-meals/income-eligibility-guidelines

U.S. Department of Education. (2008). Every student succeeds act. Retrieved March 4, 2019, from https://www.ed.gov/essa?src=rn

U.S. Department of Education. (2004). *Title I – Improving the academic achievement of the* disadvantaged. Retrieved from http://www2.ed.gov/print/policy/elsec/leg/esea02/pg1.html

U.S. Department of Health and Human Services. (2001). *Mental health: Culture, race, and*

ethnicity- A supplement to mental health: A report of the surgeon general. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services.

U.S. Department of Justice. (2014). *Concept of trauma and guidance for a trauma-informed approach.* Retrieved from https://store.samhsa.gov/shin/content/SMA14-4884/SMA14-4884.pdf

van der Kolk, B. (1989). The compulsion to repeat the trauma: Reenactment, revictimization, and masochism. *Psychiatric Clinics of North America*, 389-411.

van der Kolk, B.A. (1985). Inescapable shock, neurotransmitters, and addiction to trauma: Toward a psychobiology of posttraumatic stress. *Biological Psychiatry, 20,* 314-325.

van der Kolk, B.A., & Ducey, C.P. (1989) The psychological processing of traumatic experience: Rorschach patterns in PTSD. *Journal of Traumatic Stress, 2*, 259-274.

van der Kolk, B. A., & McFarlane, A. C. (1996). *Traumatic stress: The effects of overwhelming experience on mind, body, and society.* Guilford Press.

Vanderbleek, L. M. (2004). Engaging families in school-based mental health treatment. *Journal of Mental Health Counseling*, *26*(3), 211-224.

Voisin, D. R., Neilands, T. B., & Hunnicutt, S. (2011). Mechanisms linking violence exposure and school engagement among African American adolescents: Examining the roles of psychological problem behaviors and gender. A*merican Journal of Orthopsychiatry, 81*(1), 61-67.

Wherry, J. N., Graves, L. E., & Rhodes King, H. M. (2008). The convergent validity of the Trauma Symptom Checklist for young children for a sample of sexually abused

outpatients. *Journal of Child Sexual Abuse, 17*(1), 38–50.

Wilson, B. J. (2018). Child-centered play therapy: Aggression, empathy, and self-regulation. *Journal of Counseling & Development*.

Winter, G. (2000). A comparative discussion of the notion of 'validity' in qualitative and quantitative research. *The Qualitative Report, 4*(3), 1-14.

Wolfpaw, J. M., & Ford, J. D. (2004). *Assessing exposure to psychological trauma in the juvenile justice population.* Retrieved from http://www.nctsnet.org/nctsn_assets/pdfs/edu_materials/assessing_trauma_in_jj_population.pdf

Wolpert, M., Humphrey, N., Belsky, J., & Deighton, J. (2013). Embedding mental health support in schools: Learning from the Targeted Mental Health in Schools (TaMHS) national evaluation. *Emotional and Behavioural Difficulties, 18*(3), 270-283.

Yasinski, C., Hayes, A. M., Ready, C. B., Cummings, J. A., Berman, I. S., McCauley, T., ... & Deblinger, E. (2016). In-session caregiver behavior predicts symptom change in youth receiving trauma-focused cognitive behavioral therapy (TF-CBT). *Journal of consulting and clinical psychology, 84*(12), 1066.

Yeager, K., Cutler, D., Svendsen, D., & Sills, G. M. (2013). *Modern community mental health: An interdisciplinary approach*. Oxford University Press.

Zangeneh, M., Barmaki, R., Gibson-Wood, H., Levitan, M., Romeo, R., & Bottoms, J. (2008). Research compensation and lottery: An online empirical pilot study. *International Journal of Mental Health and Addiction, 6*(4), 517-521.