# TARGETING TRAUMA: IMPROVING SCHOOL OUTCOMES FOR STUDENTS IN OUT-OF-HOME CARE

by

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ABSTRACT

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The central purpose of this study was to evaluate the effectiveness of *The Cognitive Behavioral Intervention for Trauma in Schools* (CBITS; Jaycox, 2002) program as implemented with students residing in out-of-home care (OHC) placements in an urban public high school in the Midwest United States. Utilizing single-case design methodology, CBITS was implemented. Six students (three in the treatment group and three in the waitlist control group) participated in this study, alongside their classroom teachers and parents/guardians. Three key school outcomes were assessed: traumatic stress symptomology, problematic classroom behaviors, and academic disengagement.

Screening results suggested that rates of exposure to trauma and resulting Posttraumatic Stress Disorder (PTSD) symptoms were common among participating students. All students screened for this study reported multiple symptoms of PTSD. Compared to the waitlist control participants, students receiving CBITS experienced reduced traumatic stress symptoms as well as decreased problematic classroom behaviors and academic disengagement. Follow-up results also suggested that students partaking in CBITS rated the program as effective and easy to understand. Implications of these findings for future research and practice are discussed, including recommendations for program delivery with similar student populations.

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To my husband and children who keep asking if I'm done yet,

I give you this blank page and all of my time.

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# CHAPTER I: INTRODUCTION

## Background

According to the United States Department of Health and Human Services (2017), approximately 6.5 million children were reported to child protective services (CPS) in 2016, with an estimated half-million youth residing in out-of-home care (OHC) placements (i.e., foster care, group homes, residential treatment facilities) in any given year. The main priority of CPS is to ensure youth's immediate safety, permanency, and well-being above all else, thereby leaving little room to focus on school functioning (Harker et al., 2003). However, research in the past decade has begun to illustrate the dismal educational outcomes experienced by youth in OHC, necessitating a closer look at interventions and practices to assist youth in school (Cox, 2013). The disproportionate number of youth in OHC who fail to meet appropriate academic and social-emotional milestones is alarming, particularly considering school success is highly predictive of well-being and success as adults (Zetlin, MacLeod, & Kimm, 2012).

Students involved in CPS represent one of the most educationally vulnerable populations in our schools (Berger et al., 2015; Cox, 2013). In particular, students in OHC placements as a result of CPS involvement experience numerous academic and social-emotional issues in the classroom (Zetlin & Weinberg, 2004). Compared to their peers, youth in OHC score significantly lower on standardized achievement tests, fail to demonstrate reading/math proficiency, and experience low graduation rates (Eckenrode, Laird, & Doris, 1993; Pears, Heywood, Kim, & Fisher, 2011; Piescher, Hong, & LaLiberte, 2012). Several studies found that nearly one-half of all youth in OHC had not received a high-school diploma or GED by the age of 19 (Berger et al., 2015; Smithgall et al., 2004). In one study, 75% of youth in OHC performed below grade level on standardized tests and were more than a year behind in early reading and math skill acquisition than their same-age, same socioeconomic status peers (Pears et al., 2011). Youth in OHC also experience internalizing

and externalizing issues that interfere with learning, resulting in behavioral challenges in the classroom, decreased attendance, increased suspensions/expulsions, and early school dropout (Zetlin, MacLeod, & Kimm, 2012). As a result of poor academic performance and behavioral issues, youth in OHC are likely to require special education services (Berger et al., 2015). Compared to 12% of the general student population receiving special education services, eligibility for special education among youth in OHC is significantly higher (range from 30-52%; Zetlin et al., 2012). These youth often feel disconnected from teachers and peers at school, and disengaged with the learning process overall (Jimenez et al., 2016).

Even more so, youth in OHC often have long and complex trauma histories that may limit their ability to be successful in school. By definition, children served by CPS have experienced at least one major traumatic event, and children specifically placed in OHC may have extensive histories of traumatic neglect, abuse, or maltreatment (Ko et al., 2008; Lee et al., 2014). Children entering out-of-home care placements generally do so as a result of substantiated neglect and/or abuse (i.e., physical, sexual, exploitation, emotional, parental substance, abandonment) occurring within the child's home (Child Welfare Information Gateway, 2016). In many cases, youth in OHC experience multiple traumas, thereby increasing their likelihood of poor school and life outcomes (Smithgall et al., 2010).

The effects of trauma on academic success and social-emotional outcomes are well-documented in the research literature (Romano et al., 2015). Repeated exposure to traumatic events can have a devastating developmental impact on children's cognitive, emotional, behavioral, social, and physical development (Greger, Myhre, Lydersen, & Jozefiak, 2016; Ko et al., 2008). Children who have experienced multiple traumas have difficulties in the areas of language, communication, problem-solving, executive functioning, and are at-risk of poor academic performance in the classroom (Romano et al., 2015). According to the National Child Traumatic Stress Network

(NCTSN, 2013), a traumatic event can seriously disrupt the learning process by causing high levels of emotional upset, disruptive behavior, and a decrease in student attendance. Even more so, children experiencing trauma have difficulty concentrating, interacting with others in the classroom setting, regulating their emotions, and maintaining engagement with school material. As such, they are at-risk of developing mental health disorders (i.e., anxiety, depression, post-traumatic stress) and engaging in high-risk behaviors, such as criminal/delinquent acts, violence, and/or substance abuse (Greger et al., 2016; Romano et al., 2015). It is no surprise that traumatic stress is associated with increased use of mental health services and involvement with child-serving systems, such as child welfare and juvenile justice (Ko et al., 2008; NCTSN, 2013).

Research suggests that positive educational experiences and trauma-informed interventions may counteract the negative effects of abuse/neglect, trauma, and maltreatment experienced by youth in OHC (Leenerts et al., 2013; Rebbe et al., 2017; Stone & Zibulsky, 2015). In fact, youth in OHC who complete high school are more likely to attend post-secondary education institutions, secure stable employment, and have high levels of self-sufficiency (Romano et al., 2015). However, the role played by traumatic stress in educational outcomes and treatment is often overlooked, and many communities lack trauma-informed service providers who are trained to deliver evidence-based treatments (Chaffin & Friedrich, 2004; Jaycox et al., 2012; Ko et al., 2008). Research informing the development of trauma-informed interventions, practice, and policy is critical for improving the school outcomes of this vulnerable population (Kataoka et al., 2011; Stone, 2007; Weiner, Schneider, & Lyons 2009).

**Statement of the Problem**

Research clearly demonstrates that youth in OHC struggle to succeed in school for a variety of individual, familial, and systemic reasons (Berger et al., 2015; Cox, 2013; Forsman & Vinnerljung, 2012; Jimenez et al., 2016; Piescher et al., 2014; Smithgall et al., 2004). Despite the

dismal academic and social-emotional outcomes consistently reported for youth in OHC, interventions delivered in the school setting with this population have been sparsely studied. In a review of interventions aimed to improve the school functioning of youth in OHC, Forsman and Vinnerljung (2012) located only 11 studies across a time span of 35 years. A more recent review conducted by researchers in the United Kingdom added just one additional intervention study to the existing literature base (Evans, Brown, Rees, & Smith, 2017). There appears to be a critical research-to-practice gap in this area, and further evaluation of interventions designed to enhance the educational outcomes of youth in OHC is warranted.

Among the studies identified in the systematic literature reviews (i.e., Evans et al., 2017; Forsman & Vinnerljung, 2012), only one intervention was implemented in the school setting (Pears et al., 2012). In this particular study, children in OHC were randomly assigned to participate in a school readiness intervention in their kindergarten class that was designed to increase literacy, social, and self-regulation skills (Pears et al., 2012). However, the majority of studies reported on interventions implemented outside the school setting (e.g., residential treatment, mental health center) and/or with professionals other than school personnel. This is particularly problematic as youth in OHC experience barriers receiving behavioral health services in the community, including (a) lack of available, experienced mental health professionals, (b) limited to no coordination between mental health professionals and child welfare workers, and (c) lack of training for caregivers on recognizing mental health issues and accessing mental health care (Kerker & Dore, 2006). Schools are important settings for intervening with academic and behavioral challenges (Gresham, 2004). School-based interventions alleviate common obstacles to treatment like transportation barriers, stigma of seeking care, and dependence on parents to seek out care. Specifically for students in OHC who may experience many of the aforementioned barriers, school can be a constant place to provide service delivery (Pears et al., 2015; Pecora et al., 2009).

Another limitation in existing research appears to be the lack of trauma-informed interventions being implemented. Although the effects of childhood trauma and maltreatment on academic and social-emotional outcomes are well-documented among the OHC population (e.g., Romano et al., 2015), none of the interventions identified by the systematic reviews considered trauma the child may have experienced as a result of CPS involvement (Evans et al, 2017; Forsman & Vinnerljung, 2012). Research suggests that youth in OHC often present with various forms of underlying trauma that may cause difficulties in school functioning, low academic grades and disengagement, and behavioral issues (Greger et al., 2016; NCTSN, 2013; Romano et al., 2015). As such, education for youth who have been traumatized by experiences leading to home removal (e.g., abuse or neglect) should focus on ameliorating the core issues that lead to problem behaviors in the classroom (Child Welfare Information Gateway, 2016; Cohen, Scheid, & Gerson, 2014).

In summary, youth in OHC are susceptible to poor academic and social-emotional outcomes given their traumatic involvement with CPS (Romano et al., 2015). Compared to the general student population, youth in OHC demonstrate poorer educational outcomes, even when controlling for socioeconomic status and other demographics (Smithgall et al., 2004). Although a few studies have implemented and evaluated interventions designed to improve the school outcomes of youth in OHC (see Evans et al., 2017; Forsman & Vinnerljung, 2012), the research literature in this area is limited for two reasons: (1) Interventions have been implemented outside the school setting and/or with professionals other than school personnel (Pears et al., 2015), and (2) interventions lack a trauma-informed focus despite numerous research studies demonstrating the negative impact of trauma on youth's school outcomes (Greger et al., 2016; Ko et al., 2008; Romano et al., 2015).

**Purpose of the Study**

Considering the current state of knowledge in the area of trauma-informed educational services for youth in OHC, this dissertation study added to the limited existing research literature.

The central purpose of this study was to implement and evaluate a trauma-informed intervention in the school setting with youth residing in OHC. The Cognitive Behavioral Intervention for Trauma in Schools (CBITS; Jaycox, 2004) program was provided in the school setting through collaborative efforts by school staff (i.e., school psychologist, social workers, teachers) in order to build a network of support for the student. The basic components of CBITS include psychoeducation on various emotional, behavioral, and cognitive responses related to traumatic experiences. CBITS is a skills-based cognitive behavioral therapy intervention that is implemented in school and designed to reduce youth's symptoms of traumatic stress, depression, anxiety, and externalizing behaviors (Jaycox, 2004). The theory of change relies on the student making cognitive adjustments to reduce maladaptive schemas, and thus, improve behavioral outcomes (Jaycox et al., 2009). CBITS has also been found to improve students' academic outcomes, including grades, reading/math proficiency, school engagement, and attendance (Jaycox et al., 2012; Kataoka et al., 2011). Given the programmatic focus on reducing childhood trauma and improving school outcomes, CBITS was hypothesized to be particularly beneficial for youth in OHC (Kataoka et al., 2012).

Given that youth in OHC experience trauma that potentially impacts school functioning (Greger et al., 2016; NCTSN, 2013), the purpose of this study was to develop a better understanding of whether addressing trauma may ameliorate school outcomes among youth in OHC. Specifically, three educational outcomes found to be predictive of school completion and success among youth in OHC were evaluated: traumatic stress symptoms, problematic classroom behaviors (i.e., internalizing/externalizing issues), and academic disengagement (i.e., off-task behaviors). Following the implementation of CBITS, it was hypothesized that youth would report decreased traumatic stress symptomology, and exhibit decreased problematic classroom behaviors and academic disengagement.

Empirical evidence suggests that increasing academic engagement may be particularly important for youth in OHC considering over half drop out of school and report feeling disengaged with the learning process overall (Romano et al., 2015; Zetlin et al., 2012). As such, engagement may be a protective factor for youth at-risk of school failure (Finn, 1989; Jimenez et al., 2016). Academic engagement is a multi-dimensional concept, generally defined by three components (Fredricks, Blumenfeld, & Paris, 2004). According to Fredrick and colleagues (2004), *cognitive engagement* reflects students' willingness to invest in the effort to learn and master academic skills. *Emotional engagement* includes the student's feelings towards peers, teachers, and other aspects of school which influences motivation to complete academic tasks. Lastly, *behavioral engagement* reflects on-task participation in classroom activities. For the purpose of this study, I focused on behavioral (i.e., on-task/off-task) engagement.

Researchers suggest that improving problematic behaviors (i.e., internalizing/externalizing issues) among youth in OHC may be beneficial as the majority are at-risk for developing mental health issues, chronic substance abuse, or becoming involved in criminal/juvenile acts of delinquency (Greger et al., 2016; Pecora, 2012). Youth in OHC experience internalizing (e.g., anxiety, depression) and externalizing (e.g., aggression, defiance) behaviors in the school setting that interfere with school success (Pears, Kim, & Fisher, 2012; Romano et al., 2015). Such behavioral problems have been associated with the experience of trauma across a number of at-risk student groups as well as specifically youth in OHC (Greger et al., 2016; Pecora, 2012). In this study, I targeted trauma by implementing a trauma-informed intervention, and evaluated whether a functional relationship existed between CBITS and students' traumatic stress symptoms, problematic classroom behaviors, and academic disengagement, as these school outcomes are critical to the success of youth in OHC.

## Research Questions

In this dissertation, the following research questions were addressed:

1. Is there a functional relation between implementation of a trauma-informed intervention (i.e., CBITS) and a decrease in traumatic stress symptoms among students in out-of-home care?
2. Is there a functional relation between implementation of CBITS and a decrease in problematic classroom behavior (i.e., internalizing/externalizing issues) among students in out-of-home care?
3. Is there a functional relation between implementation of CBITS and a decrease in academic disengagement (i.e., off-task behavior) among students in out-of-home care?

## Nature of the Study

Participants in this study included six students, their teachers, and parents/caregivers (optional participation). At the time of the study, student participants were between the ages of 14 and 17, and enrolled in an urban high-school in the Midwest. The sample was limited to student participants who were residing in out-of-home care placements as a result of child protective services involvement. The students participated in a total of ten individualized CBITS sessions. Sessions were delivered once a week after-school for approximately 50 minutes per session. Data were gathered regarding students' traumatic stress symptomology, academic disengagement, and problematic classroom behavior.

## Research Contributions

This study added to the limited existing research base in several ways. First and foremost, although youth in OHC experience a multitude of poor educational and well-being outcomes (Trout et al., 2008), there have been surprisingly few evaluated attempts at educational interventions aimed

to improve school functioning (Evans et al., 2017; Forsman & Vinnerljung, 2012). Even more so, extant educational interventions have primarily targeted reading/math achievement outcomes, thereby neglecting additional school outcomes that have been found to be critical to the educational success of youth in OHC (Pears et al., 2013). In this study, I examine traumatic stress symptoms, academic disengagement, and problematic classroom behaviors (i.e., internalizing and/or externalizing issues that interfere with academic functioning) as these outcomes have been shown to be predictive of academic failure, subsequent drop-out, and mental health disorders (Romano et al., 2015).

Second, existing studies have implemented interventions outside of the school setting and without the assistance of school personnel (Evans et al., 2017). This is particularly problematic as youth in OHC experience multiple barriers accessing academic and behavioral services in the community (e.g., lack of mental health professionals), and struggle to adhere to services given their increased mobility (Kerker & Dore, 2006). Given that the primary mission of school is to educate and improve outcomes, schools are important settings for intervening with academic and behavioral issues (Gresham, 2004). Implementing CBITS in the school setting reduces common barriers to treatment experienced by youth in OHC, such as transportation issues, stigma of seeking care, and reliance on parents/family members to seek out care (Jaycox, 2004).

Lastly, the trauma-informed intervention CBITS has not yet been implemented and evaluated within the OHC population. This is a critical gap as youth in OHC experience cumulative traumatic stressors that may interfere with multiple aspects of school functioning (Leone & Weinberg, 2010; Pears et al., 2013). The impact of childhood trauma on youth's academic and social-emotional outcomes has been widely documented in the research literature (Jimenez et al., 2016); however, none of the existing educational interventions have utilized trauma-informed approaches to improve school outcomes among youth in OHC (Forsman & Vinnerljung, 2012).

## Definition of Terms

The following terms will be used throughout the dissertation study. Operational terms, unique words used in an unfamiliar context, or words not commonly used or understood are included to ensure understanding of these terms as they are utilized in this study.

***Academic Engagement***: Generally defined by three components: cognitive, emotional, and behavioral (Fredricks et al., 2004). For the purpose of this study, I defined and measured academic engagement as directly observed by the student's behavioral (i.e., on-task/off-task) engagement. As such, academic disengagement reflects the student's level of off-task behavior in classroom activities (Fredricks et al., 2004). On-task behavior is defined as being either actively or passively engaged with appropriate instructional materials (Shapiro, 1996). *Actively engaged* refers to the student actively attending to the instructional material or task (i.e., reading aloud, writing, answering a question, talking to teacher/peers about instructional task), whereas *passively engaged* refers to the student passively attending to the instructional material or task (i.e., listening to the teacher during classroom instruction, looking at instructional material, listening to peers discuss instructional material; Shapiro, 1996). Off-task behavior is characterized as behavior that does not fall under the criteria of on-task participatory behavior described.

***Cognitive Behavioral Intervention for Trauma in Schools (CBITS):*** A 10-session, school-based program that is aimed at relieving symptoms of traumatic stress, depression/anxiety, and externalizing behaviors among children in elementary, middle, and high schools exposed to a wide range of traumas. Youth learn skills in relaxation, challenging upsetting thoughts, social problem solving, and processing traumatic memories and grief. CBITS also includes parent and teacher education sessions (Jaycox, 2004; NCSTN, 2013).

***Out-of-Home Care (OHC) Placement:*** Full-time, 24-hour substitute care for youth placed away from their parents or/and guardians and for whom the State agency has care and placement

responsibility. This placement includes, but is not limited to foster family homes, foster homes of relatives, group homes, emergency shelters, residential facilities, child care institutions, and preadoptive homes (U.S. Department of Health and Human Services, 2017).

***Problematic Classroom Behavior:*** This construct represents both internalizing and externalizing issues that interfere with normal classroom functioning and academic outcomes. Internalizing behaviors represents behavioral problems that more centrally affect the child's internal psychological environment, rather than the external world (Liu, 2004). These behaviors may include (but are not limited to): being withdrawn, anxious, inhibited, depressed, or having somatization concerns. Externalizing behaviors represents a grouping of behavioral problems that are manifested in children's outward behavior on the external environment (Achenbach, 1991). Externalizing behaviors generally consist of hyperactive, disruptive/delinquent, and aggressive behaviors (Hinshaw, 1987). *Hyperactive behaviors* may include (but are not limited to): trouble staying seated, frequently moving around when inappropriate, fidgeting, talking excessively, and interrupting/blurting out. *Disruptive/delinquent behaviors* may include (but are not limited to): shouting, swearing, stealing, lying, and cheating. *Aggressive behaviors* consist of physical or verbal behaviors that harm or threaten to harm others, and may include (but are not limited to): hitting, biting, kicking, bullying, and making threatening statements.

***Trauma:*** An event that overwhelms youth's ability to adapt or manage. Causes of trauma include: Neglect, psychological abuse, physical abuse, sexual abuse, witnessing of domestic violence, community violence, school violence, traumatic loss, medical trauma, natural disasters, terrorism, refugee trauma, war, and others (National Child Traumatic Stress Network, 2013). For the purpose of this study, the term "trauma" is associated with varying traumatic experiences that youth in OHC may have experienced prior to, during, and/or as a result of CPS involvement.

***Youth:*** School-aged persons ages 5 to 18 years.

# CHAPTER II: THEORETICAL FRAMEWORK

Our understanding of the educational outcomes of youth in OHC has been influenced by several theories. For the purpose of this dissertation, four theories will be utilized as a framework for understanding the relationships among OHC involvement, trauma, and school outcomes: 1) Bronfenbrenner's (1979) Ecological Systems Theory, 2) Briere's (1992) Self-Trauma Model, 3) Finn's (1989) Model of School Engagement, and 4) Beck's (1995) Cognitive Behavioral Theory. The following discussion includes a brief description of each theory and how it applies to the study of educational outcomes of youth in OHC.

## Ecological Systems Theory

For the purpose of this study, Ecological Systems Theory (EST; Bronfenbrenner, 1979) informed the conceptualization of educational achievement problems commonly experienced by youth in OHC. According to Bronfenbrenner (1979), "The ecology of human development involves the scientific study of progressive, mutual accommodation between an active, growing human being and the changing properties of the immediate settings in which the developing person lives, as this process is embedded" (p. 21). EST posits that youth interact with five levels of systems (i.e., micro-, meso-, exo-, macro-, and chronosystems), and these interactions influence development and well-being (Bronfenbrenner, 1979). At the *microsystem* level, youth's most immediate relationships and interactions with individuals and groups in closest proximity are examined. The *mesosystem* takes into account the relationships and interactions between various microsystems (e.g., parent-school collaboration, home-daycare provider relationships). The *exosystem* examines additional social structures that do not interact with youth directly, but influence his/her life experiences and development (e.g., various organizations and social services). At the *macrosystem* level, broader societal expectations, cultural attitudes, and laws/policies impact youth's development. Finally, the

*chronosystem* accounts for the passage of time within a socio-historical context as youth develop. It is important to consider how different systems affect the educational achievement of youth in OHC given that youth spend a significant time interacting with a variety of systems, including their family, foster family, homes, schools, peer groups, and neighborhoods.

EST highlights the importance of taking into consideration multiple environmental contexts that affect youth's development, and specifically, youth's educational outcomes (Bronfenbrenner, 1979; Cicchetti & Lynch, 1993). This theory maintains that academic and behavioral problems rarely occur in isolation; instead, they are generally caused or exacerbated by issues occurring across several systems (Stone & Zibulsky, 2015). That is, the interconnections among student characteristics, the school, and community context serve to influence school performance (Bronfenbrenner, 1979). In particular, it is important to consider youth's unique interactions with the child protection system and how this relates to school success.

Specifically with regards to this study, EST was utilized to help identify the multiple barriers and risks that impact the educational success of youth in OHC. For example, at the microsystem level, youth in OHC may experience a variety of factors that can affect their school outcomes. The process of being removed from home undoubtedly causes considerable disruption, change, distress, and instability in a child's life (Zorc et al., 2013). These significant disruptions may extend to the classroom and negatively impact a child's academic performance and behavior in school (Sullivan, Jones, & Mathiesen, 2010). Placement involves separation from a child's primary caregiver and other family members, which may cause emotional and social stress, and thereby reduce school achievement (Sullivan et al., 2010). Even more so, a new residential placement may necessitate a change in schools. In fact, among a national sample of foster care alumni, nearly three quarters reported five or more school changes during their time in out-of-home care (Smithgall et al., 2004). Considering the unique experiences of youth in OHC across various ecological levels allows us to

understand the cumulative difficulties that may potentially interact with one another to affect the student's educational outcomes.

The ecological framework was also utilized as a basis for this study's intervention as it allows us to identify the interconnections among student characteristics, the school, and community context that influence educational outcomes (Bronfenbrenner, 1979; Cicchetti & Lynch, 1993). The adoption of an ecological framework emphasizes the importance of creating a system of care that strives to change contextually relevant factors in order to improve students' educational performance (Cicchetti & Valentino, 2006). Consistently, the intervention utilized in this study aims to target a contextually relevant systemic issue (i.e., trauma) across different levels of a child's ecological systems in order to improve school outcomes.

**Self-Trauma Model**

Developed by Briere (1992), the Self-Trauma Model (STM) incorporates aspects of trauma theory as well as cognitive-behavioral theory to provide an integrated approach in treating individuals who were abused or neglected as children. The STM was utilized as a framework for this study to better understand the impact of severe child maltreatment on youth's outcomes, particularly with regards to their mental health and behavioral (i.e., internalizing/externalizing) outcomes. The STM posits that early and severe child maltreatment interrupts normal child development, conditions negative affect to abuse-related stimuli, and interferes with the usual acquisition of self-capacities, particularly the development of affect regulation skills (Briere, 1992, 2002). Trauma caused by child maltreatment (i.e., abuse or neglect) can produce longstanding interpersonal difficulties, including distorted thinking patterns, emotional disturbance, and posttraumatic stress (Briere, 2002).

Perhaps most directly applicable to the school environment, the STM notes that trauma caused by child maltreatment hinders the development of affect regulation skills, meaning youth

may become more easily overwhelmed by emotional distress associated with memories of the abuse/trauma (Briere, 2002). In turn, they may rely on avoidance strategies of reducing stress and tension through dissociation, substance abuse and externalizing behaviors (Briere, 1992). Generally, affect regulation skills are less likely to develop when youth display an overreliance on strategies such as avoidance or externalization (Cicchetti & Valentino, 2006).

In the school setting, the absence of affect regulation skills may be manifested in several ways. First, the student may fail to make connections to important adults in the school. Given their traumatic maltreatment experiences, youth in OHC may learn to avoid certain attachment interactions, such as those with an abusive parent/caregiver (Bowlby, 1988). While this defense mechanism may protect the student from overwhelming distress, it also reduces his/her access to seek out positive attachment stimuli that might be available in the environment (Briere, 1992). As such, the avoidance response further deprives the child of normal attachment-related learning and development, and generates a dependence on avoidance as a response style (Briere, 2002). Youth in OHC may avoid developing relationships with important adults (i.e., teachers, social workers, counselors) and feel disengaged and disconnected in the learning environment (Pears et al., 2013).

Second, some youth may internalize problematic issues experienced at home, and feel that they have no help or support from trustworthy adults (Rebbe, Nurius, Ahrens, & Courtney, 2017; Shonk & Cicchetti, 2001). In fact, numerous studies have found that children who experienced maltreatment reported greater depression and anxiety (Romano et al., 2015). According to STM, one of the earliest impacts of maltreatment is thought to be on the child's internal representations of self and other as well as their formulation of cognitive schemas (Briere, 1992, 2002). That is, children construct core beliefs based on their traumatic experiences. Trauma can result in negative expectations around issues of safety, trust, self-esteem, and control (NCTSN, 2013). For instance, youth in OHC may conclude that they are unacceptable, unworthy, or inadequate (Briere, 2002).

Such core schemas intrinsically affect the child's capacity to function in the school environment, and may lead to serious mental health issues (Romano et al., 2015; Salazar, Keller, Gowan, & Courtney, 2013).

Lastly, youth in OHC may present with externalizing issues in the classroom setting as a result of inadequate opportunities to develop affect regulation skills (Briere, 1992). Generally, youth may be unable to adequately regulate their emotions, and tend to overreact to negative or stressful events. Youth in OHC may display externalizing behavior problems, including hyperactivity, inattention, and aggressive or oppositional behaviors (Jimenez et al., 2016; Zetlin et al., 2012). In addition, children who have experienced maltreatment tend to perceive greater threat, hostility, danger, and/or aggression in their interactions with others (Cicchetti & Valentino, 2006). As such, they may respond externally with aggression or bullying (Jimenez et al., 2016). Many of these inadequacies in affect regulation are seen first in the classroom environment and misconstrued as behavioral problems or conduct disorders (Zetlin et al., 2012). The STM allows us to better understand the classroom difficulties that youth in OHC may experience as a result of trauma caused by child maltreatment (Briere, 2002).

**Model of School Engagement**

Developed by Finn (1989), the participation-identification model of school engagement operationalizes the construct of school engagement while simultaneously identifying stressors or barriers to success for high-risk students. Specific to this study, Finn's (1989) model of school engagement informed the conceptualization and operationalization of academic engagement. According to Finn (1989, 1993), engagement in school may be viewed affectively or behaviorally. That is, school engagement operates on two dimensions: 1) *Identification,* which refers to a student's internalized psychological sense of connectedness or belongingness to the school environment (affective), and 2) *participation,* which refers to whether a student participates

regularly in classroom activities and the school milieu (behavioral; Finn, 1989, 1993). In the present study, I focused primarily on the behavioral dimension, *participation*, as it is most relevant to on-task participation of youth in OHC.

Finn's (1989) model recognizes that behavioral participation may take different and more elaborated forms as youth progress through school. As such, Finn (1989, 1993) proposed a four-part taxonomy describing circumstances under which participation is thought to occur. *Level-one participation* refers to lower level acts such as attending class, being prepared for class, and responding to teacher directions. *Level-two participation* involves more initiative-taking participatory behavior, such as asking questions about academic material, displaying enthusiasm for learning material, and initiating dialogue with teachers beyond what is required to complete assignments. *Level-three participation* includes students extending their participation into other types of school-related activities, such as social clubs, extracurricular programs, and athletics. Finally, *level-four participation* may involve student participation in academic goal setting and decision-making, extending not only to their own education, but also regarding school-wide policies and students' code of conduct. The present study operationalized academic engagement using the participatory behaviors observed at levels one and two with youth in OHC.

**Cognitive Behavioral Theory**

The cognitive-behavioral theoretical framework is pivotal in understanding the mechanism of change present in the intervention utilized in this study. CBITS is a cognitive behavioral therapy intervention for reducing youth's symptoms of traumatic stress, depression, anxiety, and externalization caused by exposure to trauma (Jaycox, 2004). Specific to this study, it is important to understand the theoretical underpinnings of cognitive behavioral theory and therapy in order to understand the relationship between the intervention and school outcomes.

Originally developed by Aaron Beck, cognitive behavioral theory posits that there are interacting relationships between cognitions, behaviors, and the environment (Brewin, 1996). Cognitive-behavioral therapy (CBT) approaches are then rooted in the fundamental principle that an individual's cognitions play a significant role in the development and maintenance of emotions and behaviors (Roth, Eng, & Heimberg, 2002). According to Gonzalez-Predes and Resko (2012), three assumptions underscore cognitive-behavioral methods of treatment: 1) Cognitive processes and content are accessible and can be known with proper training, 2) our thinking mediates the way we respond to environmental cues, and 3) cognitions can be intentionally modified, targeted, and changed. CBT refers to therapies that incorporate both cognitive interventions (attempts to reduce dysfunctional emotions and behaviors by altering thinking patterns) and behavioral interventions (direct attempts to reduce dysfunctional emotions and behaviors by altering behavior; Brewin, 1996). The central purpose of therapy is to reduce distress or unwanted behavior by learning new, more adaptive cognitive and behavioral skills (Gonzalez-Predes & Resko, 2012).

Cognitive strategies focus on the individual's distorted and unrealistic thinking of events, which could impact emotions and behaviors (Brewin, 1996). Often, these negative cognitions are automatic and present as internal schemas, or thought representations that have developed over the lifespan (Brewin, 1996). Specifically for youth who have experienced significant trauma, the cognitive interpretation and appraisal of the trauma can contribute to emotional and behavioral challenges manifested in the school setting. For instance, youth who have been abused may develop a schema that "all adults are physically violent." If left untreated, these negative cognitions may generate intense negative emotions and behavioral reactions that disrupt the educational process (Gonzalez-Predes & Resko, 2012). For example, youth may fail to develop trustworthy relationships with important adults in the school setting, react to discipline with fear or aggression, and appear disconnected from the school milieu. Therefore, cognitive strategies focus on identifying

and evaluating negative cognitions, and rely on various techniques (i.e., conditioning, modeling, cognitive restructuring, problem solving, developing coping strategies) to replace existing schema or distortions with more adaptive thoughts and appraisals (Roth et al., 2002).

Behavioral strategies used in CBT are based on the assumption that difficulties are often maintained by dysfunctional patterns of behavior, such as fear or avoidance (Roth et al., 2002). As such, an individual's behaviors may be conditioned, activated by certain stimuli, and reinforced (Gonzalez-Predes & Resko, 2012). In the case of significant trauma, children's behaviors (e.g., avoidance, aggression, internalizing symptoms) may be conditioned as a response to the traumatic incident. These negative behaviors may be reactivated in the presence of dangerous stimuli (e.g., an adult that yells). Generally, behaviors are repeated and reinforced through positive or negative reinforcement (Roth et al., 2002). As such, youth may continue to exhibit a fear response (e.g., screaming, running away) when presented with an adult who yells, particularly if their running away prompts the removal of the dangerous situation. Thus, behavioral techniques rely on modeling approaches to teach individuals more functional/appropriate behaviors as well as reinforcement strategies to increase the likelihood that appropriate behaviors are repeated (Roth et al., 2002).

CBITS helps students recognize how thoughts, feelings, and actions are related in order to help change negative thoughts and promote positive behavior (Jaycox, Langley, & Dean, 2009). CBITS utilizes a combination of several cognitive and behavioral techniques geared toward making maladaptive thoughts and behaviors more functional, including education/modeling, behavioral relaxation training, cognitive therapy, real-life exposure, stress or trauma exposure, and social problem solving (Schultz et al., 2010). The combination of cognitive and behavioral techniques has been demonstrated to reduce maladaptive school behaviors and improve academic outcomes across several studies (Allison & Ferreira, 2017; Crosby, 2015; Goodkind et al., 2010; Kataoka et al., 2011).

# CHAPTER III: LITERATURE REVIEW

The purpose of this study was to implement and evaluate a trauma-informed intervention (i.e., CBITS) and determine its efficacy on improving the school outcomes of youth in OHC. The following section includes a comprehensive review of themes relevant to this topic. First, I briefly describe the experience of trauma, maltreatment, and out-of-home care placement in order to facilitate an understanding of the experiences faced by youth in OHC within the Child Protective Services system. Second, I discuss relevant legislation in the areas of child welfare and education. Such legislation guides service delivery to ensure that the educational needs of children who are involved with CPS are met. Third, I provide a review of the educational literature available on the school outcomes of youth in OHC, particularly highlighting traumatic stress, problematic classroom behaviors, and academic disengagement. Next, barriers to improving educational outcomes and school success are explored, followed by a review of the research literature that describes interventions designed to improve the school outcomes of youth in OHC. Lastly, this chapter includes an overview of the Cognitive Behavioral Intervention for Trauma in Schools (CBITS) as an intervention tool for improving educational outcomes among youth in OHC.

A systematic research review of empirical research articles was conducted through 2017. The search engines used were ERIC, Academic Search Premier, PsycINFO, Education Source, and Google Scholar. The following combinations of keywords were used to uncover all relevant articles: (*foster care OR out-of-home care OR residential OR place**) and (*educat* OR school* OR outcome* OR academic* OR achieve* OR attain* OR perform* OR rating* OR social* OR socio* OR emotion* OR engage**) and (*interven* OR program* OR service**).

## Trauma Exposure and Out-of-Home Care Placement

According to the United States Department of Health and Human Services (2017), approximately 6.5 million children were reported to child protective services in 2016. A recent report by the Adoption and Foster Care Analysis and Reporting System (AFCARS, 2016) noted that nearly half a million youth were placed in out-of-home care placements. In the same report (AFCARS, 2016), common reasons for home removal were neglect (61%), parental drug abuse (32%), caretaker inability to cope (14%), physical abuse (13%), child behavior problem (11%), inadequate housing (10%), parental incarceration (8%), parental alcohol abuse (6%), abandonment (5%), sexual abuse (4%), child's drug abuse (2%), child's disability (2%), relinquishment (1%), and parental death (1%). Among youth who were removed from home, the majority (45%) were placed in foster care with a non-relative, followed by foster care with a relative (30%), institution/residential facility (8%), or a group home (6%).

The federal definition of "out-of-home care" refers to 24-hour substitute care for youth placed away from their parents and/or guardians and for whom the State agency has care and placement responsibility. This placement includes, but is not limited to, foster family homes, foster homes of relatives, group homes, emergency shelters, residential facilities, child care institutions, and pre-adoptive homes (U.S. Department of Health and Human Services, 2012). Generally, OHC placement results when an investigation is conducted by CPS workers and the substantiated event (i.e., abuse and/or neglect) is considered to be a high risk to the youth's safety and well-being (Child Welfare Information Gateway, 2017). Otherwise, instances of substantiated abuse or neglect that are considered low to moderate risk are often dealt with by providing the family community-based services/resources while the child remains in the custody of his/her parent(s) (Child Welfare Information Gateway, 2017).

CPS represents a child-serving system that encounters a significantly higher percentage of youth with trauma history than any other system (Ko et al., 2008). Many youth in contact with CPS have long and complex trauma histories. The negative impact of childhood trauma, abuse/neglect, and maltreatment on children's development (e.g., neurological, social, psychological, motor, behavioral, and academic achievement) is widely documented in the research literature (Jimenez et al., 2016; Maclean et al., 2016; National Child Traumatic Stress Network, 2013; Rebbe et al., 2017; Romano et al., 2015). By definition, youth who have been removed from their homes and placed in OHC have experienced significant levels of trauma in the form of abuse and/or neglect. OHC placement occurs as a result of substantiated trauma, including maltreatment, neglect and/or abuse (i.e., physical, sexual, exploitation, emotional, parental substance, abandonment) occurring within the child's home (Child Welfare Information Gateway, 2017). Youth in OHC may continue to experience trauma even after being placed; these youth may face multiple placements, unpredictable contact with their families, difficulties with their new living environment, and stigma associated with being in out-of-home care (Stone, 2007).

The purpose of out-of-home care is to provide a safe, temporary placement to children in need of substitute parenting (Child Welfare Information Gateway, 2017). By definition, OHC was developed as a short-term solution until the court and CPS could determine what was in the best interest of the child (Child Welfare Information Gateway, 2017). While the child was placed, the child's parents would receive intensive support services in order to meet the needs of CPS's requirements for successful reunification (Child Welfare Information Gateway, 2017). However, in many instances the child is not reunited with the parent(s) due to failure to meet CPS requirements or because the court and child welfare agencies conclude that the child would continue to face a significant risk at home (Smithgall et al., 2005). In fact, reunification only occurs in approximately 51% of cases, as noted by the most recent AFCARS (2016) report. This means that for a large

remainder of youth in OHC, placement instability becomes an issue as "out-of-home care" becomes more of a permanent solution.

Research suggests that placement permanency, and specifically numerous placement changes, is one of the leading issues negatively impacting the life outcomes of youth in OHC (Ko et al., 2008; Sullivan et al., 2010; Zorc et al., 2013). Nearly half (44%) of all youth in OHC have lived in more than three placement settings in the first year of care, with nearly 32% experiencing eight or more moves throughout their time in out-of-home care (Cross et al., 2013; U.S. Department of Health and Human Services, 2016). Extant research has clearly delineated the association between numerous placement changes and several deleterious outcomes. Youth with limited residential stability experience attachment difficulties with peers and adults, disruption in educational settings, and a reduced likelihood of reunification (Berger et al., 2015; Smithgall et al., 2005). They are likely to experience decreased academic performance, internalizing/externalizing behavior problems, and high rates of mental health issues and juvenile delinquency involvement (e.g., Berger et al., 2015; Romano et al., 2015; Smithgall et al., 2005; Stone & Zibulsky, 2015). Perhaps most concerning to educational achievement and stability, changes in residential placement often necessitate multiple moves from one school district to another (Allen & Vaca, 2010).

In their study examining the effect of school change on academic progress and behavioral problems, Sullivan and colleagues (2010) found that their sample of youth in OHC reported a mean of 7.35 placement changes, and a mean of 8.26 school transfers during their average of 6.6 years in care. With every school change, youth in OHC must adjust to new expectations and curricula, new school settings, and new friends and teachers. As such, even though the immediate threat of trauma, maltreatment, abuse/neglect may be absent, youth face uncertainty of new surroundings and relationships, anxiety from being separated, and instability as a result of repeated placement changes (Allen & Vaca, 2010; Zetlin, Weinberg, & Kimm, 2004). Given that youth in OHC

frequently experience multiple placements as well as maltreatment, trauma, and other life adversities, they are an especially vulnerable group of students (Stone & Zibulsky, 2015). While a large breadth of research literature on youth in OHC illustrates several areas in which this population is in serious need of intervention, education continues to be the forefront to successful youth development as a good education may mitigate the negative outcomes of out-of-home care placement (NCTSN, 2013; Romano et al., 2015; Smithgall et al., 2004).

## Legislation Supporting School Success

The core purpose of Child Protective Services (CPS) is to ensure the safety, permanency, and well-being of children who have allegedly experienced maltreatment at the hands of a caregiver. While the mandate of CPS has always prioritized safety and permanency, the Adoption and Safe Families Act of 1997 held CPS agencies accountable for also supporting the educational, physical, and mental health needs of children who enter OHC placements (Children's Bureau: U.S. Department of Health and Human Services, 2000). The evaluation of this obligation (as it pertains solely to youth in OHC) has been fulfilled through the Child and Family Service Review (CFSR). Since the inception of the CFSR, states have struggled to fulfill federal requirements in regard to supporting children's educational, physical, and mental health needs. In fact, only 11 states "substantially achieved" the education-related outcomes evaluated in the most recent CFSR report (National Conference of State Legislatures, 2010). In addition, recent research has confirmed the results of CFSR evaluations, indicating that children with CPS involvement fare poorly in the aforementioned areas (Noonan et al., 2012; Romano et al., 2015). Although the federal government has required states to provide appropriate services to meet the educational needs of children in OHC, and financially penalized those that fail to make progress in these areas, little progress has been made to promote and improve academic achievement among this vulnerable population (Gustavsson & MacEachron, 2011).

Over time, the field of child welfare has recognized the importance of attending to children's academic needs to support positive academic outcomes (Leone & Weinberg, 2012). This recognition has led to the creation and amendment of federal policies which guide service delivery to ensure that the educational needs of children who are involved with CPS (and more specifically, those who are placed in out-of-home care) are met (Leone & Weinberg, 2012). Three federal laws, the McKinney-Vento Homeless Assistance Act (42 U.S.C. §11431-11435), Fostering Connections to Success and Increasing Adoptions Act of 2008 (Public Law 110-351), and Every Student Succeeds Act (20 U.S.C.A. § 6301) require collaboration among CPS and education agencies to ensure that school changes are minimized and that children in OHC who do change schools are promptly enrolled (42 U.S.C. §671(a)(30),675(1)(G)). Such efforts emphasize the need to consider collaboration between child protection and school systems in order to prevent negative educational outcomes for youth with OHC involvement.

**McKinney-Vento Homeless Assistance Act**

Originally passed in 1987 and reauthorized by the No Child Left Behind Act in 2001, the McKinney-Vento is the principal federal statute that addresses the issue of school stability for children and youth who are homeless (Julianelle, 2007; Legal Center for Foster Care and Education, 2010). The definition of homeless includes some children who are in out-of-home care, including those living in emergency or transitional shelters, awaiting foster care placement, or "unaccompanied youth" who are not in the physical custody of a parent or guardian (Julianelle, 2007). The McKinney-Vento offers three protections for youth in OHC: School stability, immediate enrollment, and liaisons (Leone & Weinberg, 2012).

**School stability.** According to the McKinney-Vento, school districts must keep homeless youth in their schools of origin if it is in the student's best interest, to the extent that such a decision is feasible (Julianelle, 2007; Legal Center for Foster Care and Education, 2010). That is, youth

should attend the same school as when they were permanently housed, and remain there until the end of the academic year if a change is necessary. In addition, if the youth remains in his/her school of origin, transportation must be provided to and from the youth's new residence (Julianelle, 2007; Legal Center for Foster Care and Education, 2010). The local education agency (LEA) serving the area where the youth currently resides and the LEA of the school of origin must decide how to divide the responsibility and cost (Julianelle, 2007; Legal Center for Foster Care and Education, 2010). This act may have important implications in reducing the high number of school placements that youth in OHC experience as a result of their involvement in CPS (Sullivan et al., 2010). Research suggests that numerous school changes among youth in OHC result in reduced academic outcomes and increased internalizing/externalizing issues (Smithgall et al., 2004; Sullivan et al., 2010; Trout et al., 2008).

**Immediate enrollment.** The McKinney-Vento requires that schools immediately enroll youth in homeless situations even without the required documents (i.e., birth certificate, proof of residency, record of immunizations, previous school records; Legal Center for Foster Care and Education, 2010). Historically, youth in OHC have had difficulty transferring to new schools as caregivers may not have had immediate access to the aforementioned documentation. As a result, some studies have demonstrated that youth in OHC experienced considerable delays in receiving educational services, and as a result, missed instructional time and fell behind in classes (Allen & Vaca, 2010; Zetlin et al., 2006). As such, the McKinney-Vento requires that these students are able to attend classes immediately and participate fully in school activities (Harwick, Tyre, Beisse, & Thomas, 2015).

**Liaisons.** The McKinney-Vento requires every LEA to designate an appropriate staff person as a liaison for homeless students, and allows McKinney-Vento funds to be utilized to support the salaries of the liaisons (Julianelle, 2007). That is, every school district must have an appointed

liaison to help troubleshoot issues regarding the education of students considered homeless under the McKinney-Vento Act. Such liaisons ensure youth experience a smooth transition in to a new learning environment, and that legal issues (i.e., immediate enrollment, school placement) are resolved in a timely manner (Harwick et al., 2015; Legal Center for Foster Care and Education, 2010).

**Fostering Connections to Success Act**

Much like the McKinney-Vento, the Fostering Connections Act of 2008 seeks to promote stability for youth in OHC (Legal Center for Foster Care and Education, 2010). However, Fostering Connections offers protection for youth in OHC who many not be eligible under the McKinney-Vento because they do not meet the traditional definition of "homeless." The intent of Fostering Connections is to improve seven key areas for youth in OHC. One area focuses on improving educational access and stability so that youth in OHC may continue their education with minimal disruption (Title II, Sec. 204). Fostering Connections offers three educational protections for youth in OHC: School stability, educational continuity, and interagency coordination (Leone & Weinberg, 2012).

**School stability.** Fostering Connections mandates that child welfare workers document a specific strategy for ensuring the educational stability of youth while in OHC (Legal Center for Foster Care and Education, 2010). The strategy must take into account the appropriateness of the student's current educational setting when entering OHC as well as the proximity of the OHC placement to the school in which the student is enrolled at the time of placement (Leone & Weinberg, 2012). In addition to providing individualized case plans that emphasize school stability for youth in OHC, Fostering Connections also provides federal funding to child welfare agencies that may be used to cover education-related transportation costs for youth in OHC in order to transport the student to his/her school of origin (Legal Center for Foster Care and Education, 2010).

**Educational continuity.** Fostering Connections extends education training vouchers and independent living services for youth in OHC who have left foster care for kinship, guardianship, or adoption (Leone & Weinberg, 2012). That is, youth in OHC may be eligible to receive care and support until the age of 21, provided that youth are either (1) completing high school or an equivalency program, (2) enrolled in post-secondary or vocational school, (3) participating in a program or activity designed to promote employment, (4) employed for at least 80 hours per month, or (5) incapable of doing any of the aforementioned activities due to a documented medical condition (Legal Center for Foster Care and Education, 2010). Given that a large majority of youth in OHC experience early school drop out (Zetlin et al., 2012), Fostering Connections allows youth extended opportunities to continue their education.

**Interagency coordination.** Given that federal funding is provided to child welfare agencies by Fostering Connections, this act delineates child welfare agencies the responsibility of working with LEAs to ensure the educational stability of youth in OHC (Legal Center for Foster Care and Education, 2010). Fostering Connections notes that child welfare agencies and workers should collaborate with state and local education agencies to maintain the school stability of youth in OHC and fulfill the requirements of the law (Leone & Weinberg, 2012). Collaboration between school and child welfare systems may help improve the school outcomes of youth in OHC (Noonan et al., 2012).

### Every Student Succeeds Act

The Every Student Succeeds Act (ESSA, 2015) reauthorized the Elementary and Secondary Education Act of 1965 (ESEA), and built on the successes of Fostering Connections and McKinney-Vento by instituting new protections for youth in OHC. The foster care provisions of Title I, Part A (Title I) of the ESEA emphasize the importance of collaboration and joint decision-making between child welfare and educational agencies (U.S. Department of Education & U.S.

Department of Health and Human Services, 2016). ESSA requires that LEAs work alongside child welfare agencies to ensure the educational stability of youth in OHC. While ESSA does not create new requirements for child welfare agencies, these laws emphasize that the educational stability of youth in OHC is a joint responsibility of educational and child welfare agencies, and thus, both agencies should collaborate continuously to meet the needs of youth (U.S. Department of Education & U.S. Department of Health and Human Services, 2016)

**Summary**

In summary, CPS is designated to ensure the safety, permanency, and well-being of children. However, many states have struggled to fulfill federal requirements in regard to supporting youth's well-being, specifically concerning their educational, physical, and mental health needs (National Conference of State Legislatures, 2010; Noonan et al., 2012). Three federal laws (i.e., McKinney-Vento, Fostering Connections, and Every Student Succeeds) offer youth in OHC support in the educational setting. These laws work to ensure school stability, immediate enrollment, educational continuity, and interagency collaboration for youth in OHC. Such legislation is important to consider when educating and intervening with youth in OHC.

## School Outcomes of Students in Out-of-Home Care

Despite the recent legislation emphasizing school stability and success among youth in OHC, this vulnerable population continues to demonstrate poor educational outcomes. Compared to their peers, youth in OHC fare worse on many indicators of academic and social-emotional adjustment (e.g., Berger et al., 2015; Smithgall, Jarpe-Ratner, & Walker, 2010). Youth in OHC are at an increased likelihood of grade retention, disciplinary suspensions and expulsions, and dropping out of school before obtaining a diploma (Zetlin et al., 2012). As such, it is not surprising that these youth have educational experiences that leave them poorly prepared to succeed following emancipation (Leone & Weinberg, 2012). Given that millions of children have experienced abuse or

neglect resulting in out-of-home care placement, it is important to understand the risk of low educational achievement in order to inform prevention and intervention strategies (Maclean, Taylor, & O'Donnell, 2016).

**Academic Outcomes**

Research indicates that youth in OHC significantly lag behind their peers in reading proficiency and early numeracy/math skills (Pears et al., 2011; Piescher et al., 2012). This achievement gap exists as early as kindergarten for some youth in OHC. One study found that 75% of kindergarteners in OHC performed below grade level on statewide standardized tests and were more than a year behind in early reading and math skill acquisition than their same-age, same socioeconomic status peers (Pears et al., 2011). These children displayed difficulties with pre-reading skills, including phonological awareness, alphabetic knowledge, and oral language ability. Given that early literacy and math skills are important predictors of future academic and behavioral difficulties in the school setting (National Institute for Literacy, 2010), youth in OHC may benefit from early academic interventions. However, research indicates that these children do not enroll in early intervention and education services, such as Head Start, even when they are eligible (Lipscomb et al., 2013; Pears et al., 2015).

An accumulating body of evidence consistently indicates that students in OHC earn low grades, have low standardized achievement scores, and demonstrate a need for special education services (e.g., Berger et al., 2015; Smithgall et al., 2010; Stone & Zibulsky, 2015). In a systematic literature review examining the academic functioning of students in OHC, Trout and colleagues (2008) found that the majority of included studies reported 75% or more of their student sample performing in the "below average" range across standardized reading and math achievement tests. Consistently, three-fourths of youth in OHC have been found to perform below grade level (Smithgall et al., 2004). Data sets reporting grade point average (GPA) in the same review indicated

89% of the combined sample earned a GPA below 2.36 (Trout et al., 2008). In a recent study utilizing linked administrative data across the state of Wisconsin, Berger and colleagues (2015) found that students in OHC had achievement test scores at least 0.6 standard deviations below the average. Given these academic difficulties, youth in OHC are also likely to be involved in special education. In fact, compared to 12% of the general student population receiving special education services, eligibility for special education among youth in OHC is significantly higher (range from 30-52%; Zetlin et al., 2012).

**Academic engagement.** Research suggests that fostering engagement with school and learning is particularly important for students at-risk of educational failure and dropout (Christenson et al., 2008), yet this connection may be fragmented for youth in OHC (Pears et al., 2013). High levels of academic engagement predict a number of positive outcomes, including better academic achievement and lowered risk of delinquency and substance abuse (Hirschfield & Gasper, 2011; Pears et al., 2013). In contrast, high levels of academic disengagement are characterized by decreased attendance and participation in school-related activities, frustration or alienation toward the school milieu, and ultimately early school dropout (Christenson et al., 2008). Externalizing behaviors, such as aggression, delinquency, and conduct problems, are also associated with disengagement from school/learning (Hirschfield & Gasper, 2011). Most importantly, academic engagement may be a source of protection against poor school outcomes among at-risk students, such as youth in OHC (Fredricks et al., 2004; Pears et al., 2013).

Academic engagement is commonly divided into behavioral, affective, and cognitive dimensions (Wang, Willett, & Eccles, 2011). Behavioral engagement includes the student's on-task participation in school activities (i.e., completion of assignments, participation in discussion, staying seated); affective engagement refers to the student's connection and feelings toward school, teachers, and peers; cognitive engagement refers to the student's willingness to invest in the effort

to learn and master academic skills (Fredricks et al., 2004; Wang et al., 2011). Despite the importance of engagement to OHC youths' educational success, academic engagement as an outcome has largely been ignored in the research literature (Jimenez et al., 2016; Trout et al., 2008). In fact, only one study to our knowledge has evaluated levels of academic engagement among youth in OHC, noting that these youth had lower affective and cognitive school engagement than children in a community comparison group (Pears et al., 2013). However, behavioral engagement (i.e., academic engagement as referred to in this study) has not yet been explored with this population.

Despite the limited research on academic engagement in the OHC population, extant research has demonstrated a strong association between behavioral engagement and school outcomes in the general student population. Specifically, low levels of engagement are associated with lower standardized test scores, academic achievement, and grades (Perry, Liu, & Pabian, 2010). In a seminal study by Finn (1993), a high level of behavioral engagement (i.e., on-task participation, attendance, preparedness for class) was significantly associated with higher levels of academic achievement. This association was found to be relevant even after controlling for race, gender, and socioeconomic status differences. Students receiving higher grades and achievement test scores were more likely to maintain on-task participation in classroom activities, complete homework assignments, and engage in extracurricular school activities (Finn, 1993). Another study found that adolescents involved in child welfare who reported a high level of academic engagement (i.e., on-task behavior, enjoyment of school, feelings of closeness to teachers and peers) demonstrated significantly lower odds of engaging in health-risk behaviors, including substance abuse and criminal/delinquent acts (Leslie et al., 2010). It is apparent that academic engagement, particularly behavioral engagement, is indicative of both academic and social-emotional outcomes.

Behavioral engagement, or attention to task, is a critical prerequisite to learning (Bethell, Newacheck, Hawes, & Halfon, 2014). Researchers have theorized that behavioral engagement is an

important precursor to academic success because engaged students are more likely to attend to classroom material, invest their time/effort to learn new academic material, and make a behavioral commitment to the learning process (Bethell et al., 2014; Christenson et al., 2008; Finn, 1989). On the other hand, students who demonstrate high levels of disengagement with class activities, or off-task behavior, experience poor academic outcomes (Godwin et al., 2016). Off-task behavior may occur for many different intra- and interpersonal reasons, and has been found to be the biggest factor that accounts for loss of instructional time in the classroom (Godwin et al., 2016). Given the implications of off-task behavior on school outcomes, it is critical to target the reduction of disengagement in order to improve academic achievement.

On-task behavioral engagement among youth in OHC may be impacted by various factors. For instance, youth in OHC may be distracted by the trauma and instability characterizing their home life (NCTSN, 2013; Rebbe et al., 2017). They may be unable to attend to classroom material due to disruptive internalizing or externalizing behaviors (Rebbe et al., 2017; Shonk & Cicchetti, 2001). Some youth may disassociate and shut down in the classroom. Even more so, given that youth in OHC experience numerous school and residential moves, they may feel disconnected and disengaged from the learning environment altogether (Romano et al., 2015). One qualitative study found that youth in OHC reported feeling disconnected from school, teachers and peers, and extracurricular events (Zetlin et al., 2012). Some students fail to make positive attachments to school personnel and are unable to sustain positive peer relationships (Romano et al., 2015). Such a disconnect may lead to increased disengagement with school material and exacerbate academic and social-emotional issues already present in the classroom (Christenson et al., 2008). In summary, reducing academic disengagement appears to be critical in preventing negative outcomes (Christenson et al., 2008), and may be particularly important to consider when intervening with youth in OHC.

**Social-Emotional and Behavioral Outcomes**

In a study of the National Survey of Child and Adolescent Well-Being (NSCAW), Stahmer and colleagues (2005) found that nearly half (48%) of youth in OHC had clinically significant emotional or behavioral problems. In their study of youth in OHC, Jee and colleagues (2010) utilized multivariate logistic regression analysis to test independent associations of child demographics with social emotional problems. They found that the significance of social-emotional issues did not differ between children new to OHC compared to those who had been placed for a longer period of time (greater than 12 months). That is, both groups experienced heightened difficulty in the areas of self-regulation, compliance, communication, adaptive functioning, autonomy, affect, and social interactions (Jee et al., 2010). These findings suggest that social-emotional difficulties may exist both prior to placement and during placement(s).

Nevertheless, behavioral challenges may interfere with the learning process, and thus exacerbate students' academic outcomes as well (Leiter, 2007). Research suggests that there is an association between behavioral difficulties in the classroom and low academic achievement, grade retention, and school dropout (Masten et al., 2005). In their examination of teacher perceptions educating youth in OHC, Zetlin and colleagues (2012) noted that teachers perceived youth in OHC as more hyperactive than other students, frequently displaying anger, tempers, aggression, and problems getting along with peers. Behavior was noted as the greatest challenge to educating youth in OHC as youth frequently exhibited roller coaster emotions, which ranged from explosive and unpredictable aggressive behaviors (i.e., tantrums, hitting, screaming kicking) to shutting down (i.e., withdrawal, depression, clinging behaviors; Zetlin et al., 2012). Teachers reported that behavioral issues disrupted the education process, and frequently contributed to students significantly lagging behind statewide reading/math standards, missing instructional time, experiencing increased suspensions/detentions, and repeating grades (Zetlin et al., 2012). It is evident that behavioral

problems contribute to academic issues, particularly making it difficult for youth to access academic opportunities available to them (Sullivan et al., 2010). As a result of behavioral difficulties, research indicates that more than half of youth in OHC drop out of school, and an even greater majority experience school suspensions and expulsions that further take them away from instructional time (Zetlin et al., 2012).

Youth in OHC experience internalizing (e.g., anxiety, depression) and externalizing (e.g., aggression, defiance) behaviors in the school setting (Pears, Kim, & Fisher, 2012; Romano et al., 2015). Many factors may contribute to internalizing/externalizing issues observed in the classroom. In a systematic literature review of school functioning behaviors of students in OHC, Trout and colleagues (2008) found that the majority of identified studies noted youth in OHC come from families with histories of instability and dysfunction, mental illness, poverty, and maladaptive family relationships. In general, research demonstrates that a non-normative family structure, trauma, maltreatment, and poverty have been found to be associated with internalizing/externalizing issues among youth (Foster et al., 2015; Smithgall et al., 2010). Youth in OHC experience many, if not all, of the aforementioned risks, and thus are at a significant risk for developing internalizing/externalizing issues.

Prior research has also suggested that the behavior problems of youth in OHC are linked to a higher number of placements, type of placement, and youth's age during initial placement (Farruggia & Germo, 2015; Leathers, 2006; Marinkovic & Backovic, 2007; McMillen et al., 2005; Newton et al., 2000). In a study evaluating the relationship of placement change and negative behavior, Newton and colleagues (2000) found that increased placement instability among youth in OHC was related to an increase in both internalizing (e.g., withdrawn, somatic complaints, anxious/depressed) and externalizing (e.g., disruptive, aggressive, threatening) behaviors as measured by Achenbach's (1991) Child Behavior Check List. Placement instability may be

particularly problematic for pre-adolescents and adolescents in OHC. In fact, a greater number of placements is often associated with low educational achievement, school drop-out, low self-esteem, drug use, juvenile arrest, and increased mental health care needs (Stott, 2012). Marinkovic and Duson (2007) found that more restrictive placements (e.g., residential treatment facilities vs. kinship care) were associated with increased behavior problems. The age of initial placement may also contribute to problem behaviors, with older children experiencing significantly greater levels of externalizing issues when initially placed compared to younger children in OHC (McMillen et al., 2005). In addition to multiple residential and educational disruptions and/or placements, the experience of transitioning into care itself may elevate stress or anxiety levels and potentially increase behavior problems (Smithgall et al., 2004).

**Internalizing behaviors.** Given that youth in OHC have been exposed to disproportionately high levels of trauma, including maltreatment and removal from the home, it is unsurprising that they experience a high risk for internalizing issues (Greeson et al., 2011). In general, youth in OHC may demonstrate symptoms of anxiety, depression, PTSD, and somatization (Romano et al., 2015; Sullivan et al., 2010). Internalizing symptoms may vary depending on the youth's age. For young children in OHC, internalization may manifest in the classroom as extreme withdrawal, emotional numbing or flatness, crying, irrational fears, somatic complaints, inability to pay attention, or regressive behaviors (Greeson et al., 2011). Adolescents in OHC may experience emotional numbing, excessive emotionality, avoidance of stimuli, flashbacks and nightmares, sleep disturbances, guilt or revenge fantasies, and suicidal thoughts (Greeson et al., 2011).

Regardless of the variation in symptoms, research has consistently shown that youth in OHC are more likely to experience internalizing disorders than the general population (Romano et al., 2015). Findings from one study of adolescents in OHC found that prevalence rates of depression were three times higher than a comparison sample of 18-year-olds not in OHC (McMillen et al.,

2005). In their study of adolescents ages 13 through 16, McWey and colleagues (2010) also found elevated rates of depression and anxiety among youth in OHC compared to their counterparts. Rayburn and colleagues (2016) highlighted the interrelationship between internalizing symptoms and trauma experience in their sample of youth in OHC, noting that internalizing symptoms were commonplace among their sample of children (N = 155) ages 11 through 15. Such internalizing issues have the potential to interfere with youth's educational experience and academic achievement (Jimenez et al., 2016).

**Externalizing behaviors.** Research suggests that the experience of trauma may generate externalizing behavioral issues among youth in OHC (Eckenrode et al., 1993; Jimenez et al., 2016; Romano et al., 2015). In fact, findings from a national study of the well-being of children involved in OHC demonstrated that these children exhibit higher levels of externalizing behavior problems than their peers (Smithgall et al., 2005, 2010). Among their sample of foster care youth ages three to twelve, Vanschoonlandt and colleagues (2013) identified 40.6% as having externalizing problems as rated by the Achenbach's Child Behavior Checklist (1991), with prevalence rates varying from 25% to 60% across other studies (Pecora, 2012; Sawyer et al., 2007; Zima et al., 2000). According to Leslie and colleagues (2005), the high rates of externalizing issues among youth in OHC are thought to reflect multiple interacting risk factors. First, the high prevalence of substance abuse, mental illness, and violence in the biological household places youth in OHC at a genetic risk for developing behavioral problems (NCTSN, 2013). In addition, environmental risks or threatening situations (i.e., physical abuse, sexual abuse, domestic violence, neglect) in their home environment can interact with genetic vulnerability to further increase problematic behaviors. Even more so, the experience of being removed from home, the community, family and friends may be particularly traumatic, and having to adjust to a new life can exacerbate externalizing behaviors (Romano et al., 2015; Zima et al., 2000).

The association between externalization and high levels of trauma and/or violence among youth in OHC has been widely established across multiple research studies (Barboza et al., 2017; Dvir, Ford, Hill, & Frazier, 2014; Kolko et al., 2010; Smithgall et al., 2005; Sullivan et al., 2010). Given that youth in OHC experience high levels of violence exposure (both as witnesses and/or victims), they may be at risk for developing a range of externalizing symptoms, including aggression, conduct disorder, disruptive behaviors, impulsivity issues, and substance abuse (Kolko et al., 2010). Youth may exhibit problems ranging from relationship instability and coping difficulties to emotional and behavioral disorders that cause moderate to severe impairment (Dvir et al., 2014; Sullivan et al., 2010). Externalizing behaviors may vary by age, with younger children demonstrating irritability, outbursts of anger and fighting, and refusing to go to school (Smithgall et al., 2005; Zetlin et al., 2010). Adolescents may exhibit aggressive responses, poor interpersonal relationships, antisocial or delinquent criminal behaviors, substance abuse, and school refusal (Kolko et al., 2010; Smithgall et al., 2005; Zetlin et al., 2010). Even more so, behavioral issues may vary with each school placement. Sullivan and colleagues (2010) found that the number of school changes experienced by youth in OHC was significantly correlated with an increase in behavioral problems.

Several other factors may contribute to the onset and development of externalizing issues. For instance, it appears that externalizing behaviors may be present regardless of the child's age or length of placement. In their study of early childhood adverse experiences and kindergarten outcomes, Jimenez and colleagues (2016) found that children as young as five years old experienced increased social problems and aggression following involvement in OHC. In a longitudinal study examining multiple waves of data from the National Survey of Child and Adolescent Well-Being (NSCAW), Barboza and colleagues (2017) found that externalizing symptom severity was highest during the first two years of OHC, with symptom severity gradually

decreasing three years post-placement, albeit still in the clinically significant range. These findings suggest that externalizing issues may develop early among youth in OHC and persist throughout their involvement in CPS.

Consistently, a large number of youth who have aged out of OHC continue to have externalizing behavioral issues and clinically diagnosable mental health disorders. In their study of foster care alumni, Foster and colleagues (2015) found that nearly one quarter (23%) of their sample ($N$ = 1,038) continued to have aggression issues and/or a behavioral mental health disorder, with 20.2% having comorbid mental health diagnoses. Adults who reported maltreatment and CPS involvement as children were found to have increased high-risk behaviors, including substance abuse, revictimization, PTSD, and severe psychiatric illnesses (Dvir et al., 2014). As such, problematic behaviors may continue to persist following OHC involvement.

Problem behaviors relating to trauma and OHC involvement observed in school settings are often treated with harsh disciplinary tactics. Compared to their peers, research demonstrates that youth in OHC experience school suspensions and expulsions at much higher rates (Evans et al., 2017; Scherr, 2007; Smithgall et al., 2005; Sullivan et al., 2010). In a nationally representative sample of 17 and 18 year olds, youth in OHC were over three times more likely to report having been expelled (Sullivan et al., 2010). In a similar study conducted in Chicago Public Schools, youth in OHC were more than twice as likely as their peers to have experienced at least one disciplinary code infraction (Smithgall et al., 2005). The issue of disciplinary referrals is a multifaceted one. School personnel may not recognize that youth in OHC experience trauma on a disproportionate basis, and they may not understand the impact of trauma or adverse childhood experiences on student behavior. Failure to appropriately and adequately address the needs of youth in OHC often exacerbates emotional and behavioral problems that school personnel may be unaware of how to address in the classroom (Zetlin, Weinberg, & Shea, 2010). As such, teachers and administrators

may resort to punitive measures such as increased detentions, suspensions, or expulsions (Zima et al., 2000). Such disciplinary referrals further reduce the amount of instructional time youth in OHC receive in the classroom, thus contributing to poor educational outcomes. It is critically important to gain insight and treat externalizing problems in youth in OHC since the onset of externalizing behaviors in childhood is generally associated with antisocial behavior in adulthood (Dvir et al., 2014; Foster et al., 2015).

### Summary

In summary, literature suggests that the unique experiences of youth in OHC (i.e., trauma, maltreatment, placements) can manifest as serious emotional, behavioral, or social problems (Foster et al., 2015; Jimenez et al., 2016; Romano et al., 2015; Sullivan et al., 2010). It is evident from the reviewed studies that youth in OHC experience a high prevalence of internalizing/externalizing behaviors compared to the general population (Smithgall et al., 2005; Vanschoolandt et al., 2013). Such behaviors may disrupt the learning process as youth become distracted by various symptoms, and miss considerable amounts of instructional time as a result of increased disciplinary infractions (Sullivan et al., 2010; Zetlin et al., 2012). As such, it is critical to implement interventions targeted at decreasing problematic classroom behaviors in order to improve the school outcomes and success of youth in OHC.

## Barriers to Improving School Success

School success is often influenced by youths' experiences with CPS as well as the education system; these interrelated factors create unique barriers that make school achievement increasingly difficult for youth in OHC. While a variety of interrelated factors potentially affect a child's school performance, youth in OHC face unique barriers that make academic achievement difficult, including experiencing trauma (Rebbe et al., 2017), numerous school changes and school instability (Ferguson & Wolkow, 2012; Smithgall et al., 2010), service delays in receiving appropriate

education (Zetlin, Weinberg, & Shea, 2006), low enrollment in early intervention services (Berger et al., 2015; Stahmer et al., 2005), and enrollment in low-performing schools (Barrat & Berliner, 2013). Compared to their peers, youth in OHC are disproportionately represented in special education (Evans et al., 2017; Smithgall et al., 2004), receive a greater number of disciplinary referrals (Smithgall et al., 2005), and have poor attendance (Maclean et al., 2016). These barriers ultimately contribute to poor school outcomes.

**Trauma**

By definition, children who have been removed from their homes and placed into OHC have experienced substantiated abuse, maltreatment, and/or neglect (Badeau & Gesiriech, 2004). Unfortunately, these children often endure other adverse childhood experiences (ACEs), such as poverty, violence, and household adversities (i.e., substance abuse, mental illness, parental criminal behaviors; Rebbe et al., 2017). Even more so, children may continue to experience trauma even after being placed in OHC; these youth may face multiple placements, unpredictable contact with their families, difficulties with their new living environment, and stigma associated with being in out-of-home care (Stone, 2007). Research suggests that cumulative childhood adversities have a profound negative impact on children's overall development (i.e., neurological, social, motor, psychological, behavioral, and academic; National Child Traumatic Stress Network, 2013; Wade, Shea, Rubin, & Wood, 2014).

In particular, the impact of childhood trauma on youth's academic outcomes has been widely documented in the research literature (Pears, Kim, Fisher, & Yoerger, 2013; Jimenez et al., 2016). Compared to their peers, youth who have experienced trauma associated with maltreatment demonstrate lower levels of cognitive functioning, language development, achievement in reading and math, overall grades, and school attendance (Stone & Zibulsky, 2015). The accumulation of traumatic stress can impair students' ability to function in school, thereby affecting school

performance (Leiter, 2007). In the classroom, traumatic stress may manifest as hyperactivity, disorganization, difficulty concentrating, incomplete classwork, and heightened emotional responses to teachers and peers (Leone & Weinberg, 2010; Zetlin et al., 2012). Students may exhibit poor emotional and impulse control, social skill deficits, and feel withdrawn or disengaged in the school environment (Romano et al., 2015). Such behavioral issues interfere with student learning and overall achievement (Zima et al., 2000).

**Increased School and Residential Mobility**

The research literature highlights school instability as one of the most serious problems facing youth in OHC (Romano et al., 2015). Youth may experience unstable living conditions necessitating not only a change in residential placement, but also a change in school placement as well (Pears et al., 2015). Disruptions in placements undermine youth's social, emotional, and physical development, and contribute to poor school outcomes (Romano et al., 2015). In general, research suggests that a greater number of school moves is associated with poor academic and social-emotional outcomes among youth in OHC (Pears et al., 2015). In a national sample of foster care alumni, approximately 70% reported having experienced three or more elementary school placements (Smithgall et al., 2004). One study found that elementary school-aged foster youth in the Chicago Public Schools were more than twice as likely to change schools as students who had no history of child protection involvement (Smithgall et al., 2010). CPS-involved youth may be forced to change schools frequently during the school-year. In fact, approximately 17% of youth in OHC leave school mid-year compared to only 2% the general population (Castrechini, 2009).

Increased school mobility causes significant disruption in the education process. Generally, a high number of school and residential changes was found to be associated with lower academic performance across numerous studies (e.g., Frerer et al., 2013; Pecora, 2012; Romano et al., 2015). These disruptions often cause youth to miss important concepts, feel ostracized from peers and

teachers, and fall behind academically (Zetlin et al., 2012). Even more so, because students do not stay in one school for an extended period, they may not be fully evaluated and may not receive appropriate services. Most importantly, however, an increased number of school changes invariably leads students to miss out on instructional time and learning opportunities (Frerer et al., 2013).

**Service Delays**

With increased school mobility and high transfer rates, youth in OHC may experience delays in school enrollment. These delays are often caused by failure to transfer records in a timely manner. Records may be lost or take several weeks, even months, to process (Allen & Vaca, 2010). According to the National Working Group on Foster Care and Education (2014), 42% of eight to twenty-one year old youth experienced a delay in school enrollment while in out-of-home care, and approximately 50% of these youth attributed the delay to lost or misplaced school or immunization records. Another source of delay is caregivers failing to immediately enroll youth in their new school when they changed schools during the school year (Zetlin et al., 2006). These delays can negatively impact the already low attendance rates of youth in OHC, and these youth may be enrolled in inappropriate classes or have to repeat courses that were previously taken.

Delays may be particularly detrimental for youth with disabilities in CPS needing specialized educational services. Although these students are legally mandated to receive appropriate services in accordance to their individualized education programs, they may end up being placed in general education classrooms awaiting an educational evaluation, or receive inappropriate accommodations and services (National Working Group on Foster Care and Education, 2014). In general, delays may also spiral the cycle of school disconnect where students may feel disengaged and unsupported in their transition to a new learning environment.

**Enrollment**

Young children in OHC who are at early risk for school failure, such as those with developmental or cognitive delays, have lower rates of enrollment in early intervention or early childhood education services that would help address these early issues, even when they are eligible for such services. One study found that among all youth in OHC who were deemed eligible to receive early intervention and education services based on their scores on standardized measures of cognitive, behavioral, and social skills, only one third enrolled in such services (Stahmer et al., 2005). As such, children in OHC may be poised to fall into the achievement gap even before they reach elementary school.

Even more so, the majority of youth in OHC are enrolled in low-performing schools (Frerer et al., 2013). Research suggests that students enrolled in low-performing schools fail to gain the skills and knowledge needed for success in life (Parsons, 2016). These schools are often located in disadvantaged areas, are prone to overcrowding and student-discipline problems, and have limited resources and insufficient facilities to meet the needs of youth involved in CPS (Frerer et al., 2013). In one study of California youth in OHC, students in foster care were consistently more likely than the general population to attend the state's lowest performing schools and less likely to attend the state's highest-performing schools. While about 50% of the general population attended schools in the lower half rankings, nearly two thirds of youth in foster care attended low-performing schools (Barrat & Berliner, 2013). As such, youth in OHC may be less likely to acquire necessary skills to achieve school success.

**Special Education Involvement**

Academic and behavioral concerns may lead to an increase in the identification of disabilities, despite various environmental risk factors (i.e., poverty, trauma, maltreatment, residential and familial insecurity) that need to be considered with this vulnerable population (Watson & Kabler, 2012). Youth in OHC are disproportionately represented in special education

compared to their peers who have not been involved in the child welfare system (Romano et al., 2015; Smithgall et al., 2004, 2010; Zetlin et al., 2012). Some reports indicate that approximately 30% to 50% of students in OHC receive special education services, compared to 12% of non-OHC youth (Zetlin et al., 2004). Furthermore, compared to the 6.9% of the population of special education students that qualified for services under the emotional and behavioral disorder criteria, nearly 50% of children in OHC have been identified as having emotional or behavioral disorders (Zetlin et al., 2012). Research suggests that youth in special education for emotional disturbance are at a particularly high risk for poor outcomes (Parker & Folkman, 2015). The stigma attached to not only receiving special education services, but also being classified with an emotional or behavioral disorder may result in several adverse consequences for youth in OHC.

First, research suggests these youth are more likely to be placed in restrictive settings than special education students who are not in OHC (Geenen & Powers, 2006). Second, these students may be treated differently by educators and/or feel ostracized from peers. For instance, they are suspended at high rates (Romano et al., 2015), thereby increasing the number of days they are out of school. Even more so, special education services for CPS-involved youth may not be equal. In one study, the individualized education plans (IEP) of youth in OHC were of poorer quality and less likely to include goals related to postsecondary education or the development of independent living skills compared to students receiving special education who were not in OHC (Geenen & Powers, 2006). Lastly, youth in OHC with disabilities are less likely to have an advocate present during their IEP transition planning meetings compared to the overall population of students with disabilities (Geenen & Powers, 2006).

**Discipline**

Compared to their peers, youth in OHC experience school suspensions and expulsions at a higher rate (Stone, 2007). For instance, in one academic year in Chicago Public Schools, OHC

youth in elementary and middle school were more than twice as likely as their peers to have experienced at least one disciplinary infraction (Smithgall et al., 2004). These disciplinary exclusions appear to increase during adolescence. In a nationally representative sample of 17 and 18-year-olds, youth in OHC were over three times more likely to report having been expelled in high school than their same-age counterparts (Courtney et al., 2004). Unfortunately, exclusionary disciplinary practices further reduce the amount of instructional time youth in OHC receive in the classroom (Scherr, 2007), thereby increasing their risk of poor school outcomes.

**Attendance**

In a systematic review of educational outcomes for students in OHC, Trout and colleagues (2008) estimated rates of absences that ranged from 8.5% to 15.6% of the school year, although other studies not included in the review cited rates as high as 30% (Smithgall et al., 2010). This is particularly troublesome as regular school attendance is predictive of increased academic achievement for students in OHC (Maclean et al., 2016). It is well established in the research literature that chronic school absenteeism in the elementary grades is associated with lower academic achievement, continued absenteeism in later grades, and high school dropout (Balfanz & Byrnes, 2012; Zorc et al., 2013). In general, poor student attendance contributes directly to poor school outcomes because students miss out on important class concepts (Frerer et al., 2013; Stone & Zibulsky, 2015). Low attendance among students in OHC may be partially explained by this population's increased school and residential mobility (Pears et al., 2015). That is, frequent placements and school changes disrupt the education process and contribute to students missing school for extended periods of time (Frerer et al., 2013).

**Summary**

In summary, youth in OHC face numerous barriers that impact their success in school. It is important to consider the unique experiences of youth in OHC and how these experiences may

contribute to their educational outcomes. Research suggests that compared to the general population of students, youth in OHC are more likely to experience trauma, school instability, service delays, special education involvement, and enrollment in low-performing schools (Ferguson & Walkow, 2012; Rebbe et al., 2017, Smithgall et al., 2010). In addition, youth in OHC experience poor attendance and high disciplinary rates that further disconnect them from the school environment and learning opportunities (Evans et al., 2017; Maclean et al., 2016).

## Interventions Targeting School Success

Although the school outcomes of youth in OHC are dismal, educational interventions delivered in the school setting have been sparsely studied. There have been surprisingly few evaluated attempts in the field of intervention research with this population. In a review of interventions aimed to improve the school functioning of youth in OHC, Forsman and Vinnerljung (2012) located only 11 studies across a time span of 35 years. A more recent review conducted by researchers in the United Kingdom added just one additional intervention study to the existing literature base (Evans, Brown, Rees, & Smith, 2017). There appears to be a critical research-to-practice gap in this area. Even more so, existing interventions are limited in their narrow scope of targeted educational outcomes, implementation in settings outside of school, and lack of trauma-informed strategies (Forsman & Vinnerljung, 2012).

### Targeted School Outcomes

Perhaps one of the greatest limitations of intervention studies to date is that they primarily focus on improving reading and math achievement of youth in OHC (Evans et al., 2017), and thereby neglect other important academic and social-emotional factors critical to the school success of OHC youth, such as school disengagement and problematic classroom behaviors (Foster & Vinnerljung, 2012). In fact, out of the 12 existing intervention studies, nine solely evaluated reading/math achievement (Evans et al., 2017). To date, only one intervention study has reported on

school engagement (Pears et al., 2013), although research in this area consistently suggests that youth in OHC regularly disengage in school and fail to develop a strong connection to school or learning (Zetlin et al., 2012). In this study, Pears and colleagues (2013) found that youth in OHC (*n* = 93) had lower affective and cognitive school engagement than youth in the community comparison group when assessed at two time points (early and late-elementary grades). Results from bivariate and multivariate analyses indicated both affective and cognitive school engagement led to higher levels of academic competence and lower levels of risk behaviors (Pears et al., 2013). Given that school disengagement is predictive of academic failure, behavioral issues, and potential dropout (Christenson et al., 2008), it is critical to foster connectivity among youth in OHC who may already feel disconnected and withdrawn as a result of school transitions, traumatic stress at home, and internalizing/externalizing symptoms (Romano et al., 2015).

Problematic classroom behaviors (i.e., internalizing/externalizing issues that interfere with academic outcomes and functioning) have also been largely neglected in existing research (Evans et al., 2017). Only one intervention to date has examined externalizing outcomes even though research suggests youth in OHC frequently experience behavioral issues in the classroom that interfere with academic progress (Trout et al., 2008). In their study examining the effects of Head Start on school readiness outcomes for children in OHC, researchers found that enrollment in Head Start was associated with changes in behavior problems as assessed by teacher report using the Adjustment Scales for Preschool Intervention (Lutz, Fantuzzo, & McDermott, 2002; Lipscomb et al., 2013). However, this study only measured externalizing behaviors (i.e., aggression, hyperactivity) whereas youth in OHC may experience internalizing issues as well (Lipscomb et al., 2013). The sample in the aforementioned study only included preschool level children; as such, future attempts are needed to intervene with problematic classroom behaviors for elementary and middle school students.

### School Setting Implementation

In their systematic review of educational interventions for students in OHC, Evans and colleagues (2017) identified only one study in which the intervention was implemented within the school setting (Pears et al., 2013). This is particularly problematic as youth in OHC experience barriers receiving mental and behavioral health services in the community, including (a) lack of available, experienced mental health professionals, (b) limited to no coordination between mental health professionals and child welfare workers, and (c) lack of training for caregivers on recognizing mental health issues and accessing mental health care (Kerker & Dore, 2006). Schools are important settings for intervening with academic and behavioral challenges (Gresham, 2004). Specifically for students in OHC who may experience increased mobility and transition, school can be a constant place to provide service delivery (Pears et al., 2015; Pecora et al., 2009).

### Trauma-Informed Strategies

Youth in OHC experience significant levels of traumatic stress (National Child Traumatic Stress Network, 2013). Although the link between trauma and poor educational outcomes is widely documented in the research literature (e.g., Romano et al., 2015), thus far, none of the existing educational interventions have utilized trauma-informed approaches to improve school outcomes among youth in OHC (Forsman & Vinnerljung, 2012). On the other hand, studies conducted in alternative settings with OHC youth (i.e., group homes, residential facilities) regularly rely upon trauma-informed strategies to improve emotional and behavioral responses (Ko et al., 2008).

The use of trauma-focused cognitive behavioral therapy (TF-CBT; Cohen, Mannarino, & Deblinger, 2006) in clinical settings has been evaluated extensively among youth who have experienced various forms of trauma, and is often regarded as the best-supported treatment for traumatized populations (Leenerts et al., 2013). TF-CBT continues to be the most widely utilized, researched, and supported treatment for childhood trauma, as evidenced by over 15 completed

randomized controlled trials (Cary & McMillen, 2012). Trauma-informed approaches have been particularly efficacious in improving many outcomes among the OHC population. One study implementing TF-CBT with 133 youth in a foster care setting observed significant reductions in traumatic stress and behavioral/emotional needs (Weiner, Schneider, & Lyons, 2009). TF-CBT is generally delivered in a clinic setting with mental health professionals (Cary & McMillen, 2012). A school-based version of TF-CBT, known as Cognitive Behavioral Intervention for Trauma in School (CBITS), has also been widely utilized and found to be effective in reducing problematic classroom behaviors and increasing academic achievement for students in the Los Angeles School District (Jaycox et al., 2009). Given the positive outcomes reported in other settings, trauma-informed interventions may be beneficial for improving both academic and social-emotional outcomes in the school setting (Lenarts et al., 2012).

### Cognitive Behavioral Intervention for Trauma in Schools

CBITS is a trauma-informed, school-based intervention for youth in middle school and high school (ages 11 to 18) designed to reduce symptoms of depression/anxiety, externalizing behaviors, and traumatic stress (Jaycox, 2004). Adapted from the TF-CBT intervention, CBITS assumes a cognitive behavioral theoretical approach (Jaycox, 2004). Cognitive behavioral theory posits that students exposed to trauma may have maladaptive assumptions or beliefs that create anxiety and interfere with functioning (Jaycox, Langley, & Dean, 2009). As such, CBITS was designed to teach students how to correct maladaptive assumptions, process traumatic experiences instead of avoiding them, learn ways to reduce anxiety and solve problems, build peer/parent support, and build confidence to confront stress in the future (Jaycox et al., 2012). In doing so, students learn how to combat underlying trauma-based issues in order to gain control over internalizing/externalizing behaviors they may exhibit (Schultz et al., 2010). CBITS is implemented by mental health providers

in the school setting (e.g., school psychologists, counselor, social workers) in order to overcome barriers youth with trauma experience receiving services in the community (Kerker & Dore, 2006).

**Components of the Intervention**

CBITS teaches six techniques throughout sessions: education, relaxation training, cognitive therapy, real life exposure, stress or trauma exposure, and social problem-solving (Jaycox, 2004). Specifically, education is used to destigmatize various symptoms associated with trauma or stress (i.e., anxiety, anger, grief, distress). Many symptoms emerge following traumatic stress, which may result in the individual feeling out of control and unable to cope. Psychoeducation may help traumatized individuals understand that their symptoms can be controlled once they are better understood (Kataoka et al., 2011). Relaxation training includes controlled breathing and progressive muscle relaxation techniques that are taught during CBITS sessions and practiced periodically during treatment (Jaycox, 2004). Relaxation exercises help individuals reduce anxiety and maintain control over their symptoms (Cuijpers et al., 2014).

Cognitive behavioral therapy is utilized in CBITS to teach individuals how to recognize maladaptive thoughts and challenge them by replacing them with more realistic appraisals (Jaycox, 2004). Traumatized individuals may believe that the world and/or people are dangerous and that they themselves are less competent following a traumatic event. Such maladaptive thoughts maintain emotional disturbances and negative behaviors; as such, cognitive therapy aims to correct maladaptive thinking patterns and improve overall functioning (Gonzalez-Predes & Resko, 2012). Much like traditional CBT approaches, CBITS offers participants structured sessions, collaboration between the student and interventionist, and opportunities to practice new techniques (Jaycox, 2004).

Real life exposure involves gradually exposing the individual to feared situations in order to reduce anxiety. During CBITS, students construct a list of situations that they fear as a result of

their traumatic experiences and are encouraged to confront such situations in a controlled fashion with the help of their parents and interventionist (Jaycox, 2004). Imaginal or creative exposure to stress or trauma is also utilized. Following the model of March and colleagues (1998), CBITS exposes participants to stress/trauma via drawings of the event or having participants recall memories of the event. Exposures are paced according to the needs of the participant to prevent individuals from feeling overwhelmed during these exercises. Guided support is provided by the interventionist during the exposure process (Jaycox, 2004).

Lastly, participants engaged in CBITS learn social problem-solving skills in order to improve their management of symptoms and to help cope with future stressors. Social problem-solving techniques are taught to combat negative symptoms and reactions individuals may experience following a traumatic event. Such techniques help participants slow down their reactions in interpersonal situations, evaluate their options and goals, and choose appropriate behaviors (Jaycox, 2004). Generally, these behavioral skills are learned through modeling, role-playing, and reinforcement throughout sessions.

**Evidential Support**

CBITS is an evidence-based intervention that has been implemented in several large school districts in the country (e.g., Los Angeles, Chicago, Madison, Baltimore) across a wide range of racially and ethnically diverse children (e.g., Allison & Ferreira, 2017; Ngo et al., 2008). Several randomized controlled studies have been conducted to evaluate the efficacy of CBITS on the reduction of traumatic stress and internalizing/externalizing behaviors (e.g., Kataoka et al., 2003; Stein et al., 2003). In one randomized controlled trial, CBITS participants experienced a significant reduction in depression, traumatic stress, and psychosocial dysfunction compared to the wait-list control group (Stein et al., 2003). In a study conducted by Jaycox and colleagues (2010), CBITS was implemented alongside TF-CBT with a sample of highly mobile youth. While participants in

both intervention settings presented with fewer symptoms of depression and trauma, less than 10% participating in TF-CBT completed their treatment compared to 90% of students receiving school-based CBITS (Jaycox et al., 2010). A recent study that implemented CBITS with Latino youth noted that all 23 participants completed the program, and reported fewer symptoms of trauma and depression (Allison & Ferreira, 2017). These collected findings suggest that CBITS has a strong evidence-base across diverse groups of students, and implementing a school-based program may reduce attrition rates and other service barriers youth experience (Jaycox et al., 2012).

While an extensive research base has demonstrated the efficacy of CBITS on the reduction of trauma-related symptomology, there are two main limitations: (1) Few studies have evaluated the impact of CBITS on school outcomes (i.e., classroom behavior and academic disengagement), and (2) no research to our knowledge has implemented and evaluated CBITS with the OHC population, specifically. Considering that CBITS is a social-emotional intervention, the first limitation may be explained by the intervention's primary focus on reducing trauma symptomology as opposed to improving measurable school outcomes (Jaycox et al., 2012). However, a large body of research suggests that social-emotional learning interventions have been associated with improvements in academic outcomes as well (Crosby, 2015). The second limitation is rather surprising as the authors of CBITS have developed a supplemental toolkit to adapt and implement CBITS specifically for youth in foster care (Schultz et al., 2010). However, no studies to date have evaluated the efficacy of CBITS on this population's outcomes.

**Research Questions**

Despite a large body of research indicating students in OHC experience poor educational outcomes, research utilizing trauma-informed interventions to improve school outcomes is absent (Evans et al., 2017; Forsman & Vinnerljung, 2012). The present study seeks to expand the limited intervention research base by implementing and evaluating the impact of CBITS on the academic

and social-emotional outcomes of youth in OHC. Utilizing single-case design methodology, this study was interested in evaluating school outcomes extant research has highlighted as critical to the educational success of youth in OHC. Three research questions were addressed.

4. Is there a functional relation between implementation of a trauma-informed intervention (i.e., CBITS) and a decrease in traumatic stress symptoms among students in out-of-home care?
5. Is there a functional relation between implementation of CBITS and a decrease in problematic classroom behavior (i.e., internalizing/externalizing issues) among students in out-of-home care?
6. Is there a functional relation between implementation of CBITS and a decrease in academic disengagement (i.e., off-task behavior) among students in out-of-home care?

# CHAPTER IV: METHODOLOGY

## Participants and Setting

This study took place at a public high school in an urban, mid-size city in Wisconsin. Total school enrollment was 2,280 students (52.8% White, 27.7% Hispanic, 12.2% Black, 4.3% Asian, and 3% Other), with 41.7% of the student body receiving free and reduced lunch. Exemption from the requirement to obtain Institutional Review Board approval for research involving human subjects was granted in September, 2018 by the University of Wisconsin-Milwaukee (see Appendix A), and school district administrative approval of the project was attained prior to the beginning of the study.

Participants in this study included six adolescent students, their teachers, and parents/caregivers (optional participation). Three students were randomly assigned to receive the CBITS intervention, and three of the students served as waitlist controls. Student participants were between 13 and 18 years of age, enrolled in the high school, and residing in out-of-home placements (i.e., foster family homes, foster homes of relatives, group homes, emergency shelters, residential facilities, child care institutions, or pre-adoptive homes). The sample of student participants was specifically selected to include youth who have experienced child protective services involvement and substantiated abuse and/or neglect resulting in out-of-home removal. Students who may have experienced trauma, but not necessarily in the context of residential removal by child protective services, were excluded from the study sample.

Efforts to recruit student participants in the study were made by the school's administrative staff, social workers, and the researcher (i.e., school psychologist). Purposeful sampling was implemented to recruit participants. School staff sent home letters to students at the high school currently listed as residing in out-of-home placements according to the school district's enrollment

information. These recruitment flyers advertised a research opportunity, and instructed parents, guardians, and/or foster parents interested in having their student participate to call or email the primary investigator/researcher (see Appendix B) if their student met the study's inclusion criteria: (1) Student between 13 and 18 years of age, (2) enrolled in the high school, and (3) residing in an out-of-home placement.

**Student screening.** Recruitment efforts resulted in eight students' guardians expressing interest in having their student participate in the research study. Eight students were screened for inclusion in the study. Screening occurred in three phases.

***Phase one***. First, students were administered the Child Posttraumatic Symptom Scale (CPSS) as a screener to identify the severity and frequency of traumatic stress symptoms derived from the DSM-5 criteria for PTSD (Foa, Cashman, Jaycox, & Perry, 2001). The CPSS consists of 17 self-reported items designed to use with children and adolescents ages 8 to 18 who have experienced or been exposed to traumatic events (Foa et al., 2001; see Appendix C). Studies measuring CPSS psychometric properties have demonstrated high test-retest reliability, high internal consistency, and high convergent and discriminant validity (Foa et al., 2001; Steward et al., 2015). Students rated how often they were bothered by each symptom in the past week on a scale from 0 "not at all" to 3 "almost always." Example items include: "Trying to avoid activities, people, or places that remind you of the event," "having much less interest in doing things you used to do," "having bad dreams/nightmares," and "having upsetting thoughts or images that come into your head when you don't want them to." Symptom severity scores were reported for each student (range 0-51), with "51" being the maximum traumatic stress symptoms experienced and "0" being the minimum. Scores "31" and higher indicate greater symptom severity and probable PTSD (Foa et al., 2001). Consistent with CPSS scoring guidelines, students receiving an "elevated" traumatic stress symptom severity score (20 or above) were included in the study, and those scoring below 20 were

excluded. Six out of eight students screened during phase one received "elevated" scores, and continued to phase two of screening. Two students were screened out due to low self-reported traumatic stress symptoms (one student received a score of eight, and the other a score of four). The legal guardians of students who were screened out were notified, provided with resources, and offered the opportunity to participate in CBITS at a later time if desired.

***Phase two.*** Six students participated in the second phase of screening. During the second phase of screening, each student's English teacher provided information to determine whether the student was at an elevated risk for internalizing and/or externalizing behaviors. The teachers were selected purposefully because (1) each student was enrolled in English as it was a requirement for all four years of high school, and (2) English teachers serve as the student's advisor during the academic year. English teachers consult with other core teachers (i.e., Math, Science, Social Studies) throughout the year when academic or behavioral difficulties arise, and advise the student accordingly. As such, English teachers presumably have the most background knowledge and reliable information regarding the student's behavioral functioning. Teachers were administered the Behavior Assessment System for Children-3: Behavioral and Emotional Screening System (BASC-3 BESS; Kamphaus, Cecil & Reynolds, 2015; see Appendix D). The BASC-3 BESS has been found to be a psychometrically sound screening tool to identify students experiencing internalizing and externalizing symptoms, with reliability coefficients ranging from .79 to .86, and convergent validity ($r$ = .79) with Achenbach's (1991) Child Behavior Checklist (Jenkins et al., 2014). Cumulative internalizing/externalizing items make up the Behavioral and Emotional Risk Index. Scores falling in the 0-60 range indicate "Normal Risk," whereas scores falling in the 61-70 range are considered "Elevated Risk" and those above 71 are "Extremely Elevated." Teachers completed the BASC-3 BESS by ranking the student's level of risk on several internalizing (e.g., nervous or fearful, withdrawn, spends time alone) and externalizing items (e.g., aggressive behavior, lies or

cheats, bullies or rejected by peers). Students identified as "elevated" or "extremely elevated" risk on the Behavioral and Emotional Risk Index continued to the final screening phase, whereas students identified as normal-risk were screened out. All six students received either "elevated" or "extremely elevated" scores on the BASC-3 BESS, and continued to the final phase of screening. The following table presents screening data from the BASC-3 BESS, including *T* scores, percentile rankings, and categorical classification for each student.

Table 1

*Screening Scores: BASC-3 BESS*

| Student | T Score | Percentile | Classification |
|---|---|---|---|
| A | 76 | 99 | Extremely Elevated |
| B | 70 | 95 | Elevated |
| C | 70 | 95 | Elevated |
| D | 75 | 98 | Extremely Elevated |
| E | 70 | 95 | Elevated |
| F | 69 | 96 | Elevated |

*Note.* Classifications constituting "normal risk" range from 0-60, "elevated risk" 61-70, and "extremely elevated risk" 71 and higher.

***Phase three.*** The last screening phase involved the identification and operationalization of the student's problematic classroom behavior relevant to the study. The primary investigator conducted a brief interview with each student's English teachers. The purpose of the teacher interview was to gather information regarding possible behaviors of concern in the classroom setting. Teachers were asked to describe (1) the student's behavior of concern, (2) when the behavior occurred, (3) the frequency/severity of the behavior, and (4) any antecedents/consequences of the behavior. Based on the data collected from the BASC-3 BESS and teacher interview, each student's problematic classroom behavior of concern was identified and operationalized (e.g., "physical aggression" as exhibited by the student hitting, punching/kicking, slapping, spitting, and/or physically gesturing towards peers or staff). It should be noted that some students demonstrated several behaviors of concern, in which case, one target behavior was identified and

prioritized by the teacher and researcher. Generally, this target behavior was perceived to be the most severe and/or impairing issue to the student's overall school success.

**Student participants.** Six students were chosen to participate in the study based on their screening results. All students were in different classes and had different teachers. Additional student demographic information was obtained via a brief questionnaire (see Appendix E) following the collection of student assent/guardian consent. The following is a description of the student participants.

***Student A.*** Student A was a 16-year-old Caucasian female in 11th grade. She had recently transferred into the school district as a 10th grader after living in a residential treatment facility for two years. Student A was living in a foster family home for approximately one year at the time of intervention. Foster Mom indicated that this was Student A's 11th placement overall. Foster Mom noted that she also cared for four additional children/adolescents who have severe intellectual disabilities, physical disabilities, and/or emotional difficulties in her home. Prior to her placement with Foster Mom, Student A had been placed in various residential treatment facilities, emergency shelters, foster homes of relatives, and other foster family homes across five different states. Student A had an extensive history of special education involvement dating back to early childhood. At the beginning of intervention, she was receiving special education services under the eligibility criteria of Emotional Behavioral Disorder (EBD) and Specific Learning Disability (SLD) due to an existing diagnosis of Post-Traumatic Stress Disorder (PTSD), severe emotional outbursts (i.e., self-harm/self-injurious behaviors, physical aggression towards others) exhibited in the school setting, and academic deficits in math.

During screening, Student A completed the Child Posstraumatic Symptom Scale (CPSS) and self-reported a symptom severity score of 42 out of a total possible 51, indicating extremely elevated levels of traumatic stress symptoms. Her teacher's assessment of emotional and behavioral

functioning in school utilizing the Behavior Assessment System for Children-3: Behavioral and Emotional Screening System (BASC-3 BESS) indicated a risk index score falling in the "Extremely Elevated" range. Student A's teacher was interviewed to gather further information about her functioning in class. According to her teacher, Student A spent the majority of class time off-task with her head on her desk. This was identified as the problematic classroom behavior as it prevented Student A from participating in daily classroom tasks (i.e., note-taking, worksheet assignments, discussion, quiz/test completion). Her teacher noted that Student A was withdrawn and had low motivation for academic tasks across all classes. She generally had her head slumped over on her arm or the desk the majority of the class period. When redirected to focus on class material, Student A would briefly look up at the lesson, but immediately disengage and place her head back on the desk. As a consequence of the problematic classroom behavior, Student A was failing all of her classes, not completing any classwork, and refusing to participate in major projects and assessments.

***Student B.*** Student B was a 15-year-old Caucasian male in the 10th grade. He had recently transferred into the school district as a 9th grader after living in a foster family home out of state for three years. Student B was living in a pre-adoptive foster family home for approximately four months at the time of intervention. Foster Mom indicated that this was Student B's 4th placement overall, and she was in the process of adopting him. Foster Mom noted that she had six additional children/adolescents living in her home that she had adopted, most of whom had extensive histories of parental substance abuse and/or parental incarceration. Prior to his placement with Foster Mom, Student B had been placed in an emergency shelter, foster home with a relative, and residential treatment facility. Student B had never been evaluated for special education eligibility, however his Foster Mom indicated that he had an existing medical diagnosis of Attention Deficit Hyperactivity Disorder (ADHD).

During screening, Student B completed the CPSS and self-reported a symptom severity score of 21 out of a total possible 51, indicating elevated levels of traumatic stress symptoms. His teacher's assessment of emotional and behavioral functioning in school utilizing the BASC-3 BESS indicated a risk index score falling in the "Elevated" range. Student B's teacher was interviewed to gather further information about his functioning in class. According to his teacher, Student B was consistently disengaged during class time by playing on his cell phone. This was identified as the problematic classroom behavior as it prevented Student B from paying attention to important instructional concepts. The teacher noted that Student B had his phone out during direct instruction, independent working time, and group-based discussion. Despite being in classes with strict "no phone usage" policies and being redirected frequently, Student B continued to use his phone across all classes. As a result, Student B was failing all of his classes, missing multiple assignments, and had two disciplinary referrals at the start of intervention.

***Student C.*** Student C was a 14-year-old Caucasian male in the 9th grade. He was residing in a pre-adoptive foster family home for approximately two months at the time of intervention. Foster Mom indicated that this was Student C's second placement, and noted that she was in the process of adopting Student C as well as his biological sister. Prior to his placement with Foster Mom, Student C was residing in a foster home with a relative, and had been attending the same school district since first grade. Student C had an existing 504 Accommodation Plan due to his medical diagnoses of Oppositional Defiant Disorder (ODD) and ADHD.

During screening, Student C completed the CPSS and self-reported a symptom severity score of 27 out of a total possible 51, indicating elevated levels of traumatic stress symptoms. His teacher's assessment of emotional and behavioral functioning in school utilizing the BASC-3 BESS indicated a risk index score falling in the "Elevated" range. Student C's teacher was interviewed to gather further information about his functioning in class. According to his teacher, Student C

exhibited several externalizing behaviors in class, including walking around when he was supposed to be seated, leaving the classroom without permission, having side conversations with peers during instruction, yelling and swearing across the room, throwing things at peers, and speaking disrespectfully to staff and peers. The teacher noted that the most disruptive classroom behavior Student C engaged in was being verbally off-task (e.g., talking while the teacher was talking, side conversations with peers, yelling, and swearing). This was identified as the problematic classroom behavior as it prevented Student C from paying attention to important instructional concepts and disrupted the class milieu. Numerous reinforcement strategies were attempted by several teachers to correct Student C's behavior (e.g., praise when following instructions, frequent check-ins and individualized attention, constant redirection, preferential seating to minimize distractions, and ultimately disciplinary infractions). However, Student C continued to engage in disruptive, verbally off-task behaviors. As a result, Student C was failing several classes and had received multiple disciplinary infractions at the start of intervention.

***Student D (waitlist control).*** Student D was a 15-year-old Caucasian female in the 9th grade. She was living in a foster family home for approximately eight weeks at the time of intervention. Foster Mom indicated that this was Student D's fourth placement. Prior to her placement with Foster Mom, she had been in three other foster family homes across three different school districts. Student D had an existing 504 Accommodation Plan due to her medical diagnoses of Major Depressive Disorder and Anxiety Disorder.

During screening, Student D completed the CPSS and self-reported a symptom severity score of 37 out of a total possible 51, indicating elevated levels of traumatic stress symptoms. Her teacher's assessment of emotional and behavioral functioning in school utilizing the BASC-3 BESS indicated a risk index score falling in the "Extremely Elevated" range. Student D's teacher was interviewed to gather further information about her functioning in class. According to her teacher,

Student D exhibited frequent fidgeting behaviors. Student D had access to a hall pass to see her school counselor when feeling anxious, however she rarely utilized it during class according to teacher report. She continuously fidgeted by bouncing or tapping her knees/feet, shaking her hands, picking at her skin, playing with her hair, and/or playing with her fidget tool. This was identified as the problematic classroom behavior as it prevented Student D from participating in daily classroom tasks (i.e., note-taking, worksheet assignments, discussion, quiz/test completion). Student D was failing one class at the beginning of the study; she did not have any disciplinary referrals.

***Student E (waitlist control).*** Student E was a 16-year-old Caucasian male in the 11th grade. He had recently transitioned out of residential placement into a foster family home, and transferred into the district at the time of intervention. Foster Mom indicated this was Student E's thirteenth placement. Prior to his placement with Foster Mom, Student E had been placed in various residential treatment facilities, emergency shelters, foster homes of relatives, and other foster family homes across three different states. Student E had an extensive history of special education involvement dating back to early childhood. At the beginning of intervention, he was receiving special education services under the eligibility criteria of Other Health Impairment (OHI) and Specific Learning Disability (SLD) due to an existing diagnosis of PTSD, ADHD, and Major Depressive Disorder, severe emotional outbursts (i.e., physical aggression towards staff/peers) exhibited in the school setting, and academic deficits in reading comprehension, written expression, and mathematical problem solving.

During screening, Student E completed the CPSS and self-reported a symptom severity score of 32 out of a total possible 51, indicating elevated levels of traumatic stress symptoms. His teacher's assessment of emotional and behavioral functioning in school utilizing the BASC-3 BESS indicated a risk index score falling in the "Elevated" range. Student E's teacher was interviewed to gather further information about his functioning in class. According to his teacher, Student E

demonstrated behaviors that were physically off-task, such as walking around the classroom when asked to sit, leaving the class without permission, and touching/shoving peers. This was identified as the problematic classroom behavior as it prevented Student E from engaging positively with his peers and the classroom environment. Student E was redirected frequently by his teachers and sent to the disciplinary dean during classroom instruction. Student E was failing several classes and had received multiple disciplinary infractions at the time of the study.

***Student F (waitlist control).*** Student F was a 16-year-old Caucasian female in the 11th grade. She was living in a foster family home for approximately three months at the time of intervention. Foster Mom indicated this was Student F's fifth placement. She had previously been in residential treatment and several foster family homes across the state. She was new to the district at the time of intervention. Student F had never been evaluated for special education eligibility, however Foster Mom noted academic concerns in the areas of reading, writing, and math.

During screening, Student F completed the CPSS and self-reported a symptom severity score of 33 out of a total possible 51, indicating elevated levels of traumatic stress symptoms. Her teacher's assessment of emotional and behavioral functioning in school utilizing the BASC-3 BESS indicated a risk index score falling in the "Elevated" range. Student F's teacher was interviewed to gather further information about her functioning in class. According to her teacher, Student F engaged in verbally off-task behaviors that disrupted her learning, and created a distraction for peers around her. Verbally off-task behaviors included shouting across the classroom, swearing at peers, having side conversations, and making threatening comments. This was identified as the problematic classroom behavior as it prevented Student F from paying attention to important instructional concepts. Student F was redirected frequently by her teachers and sent to the disciplinary dean during classroom instruction. As a result, Student F was failing several classes and had received multiple disciplinary infractions.

## Measures

**Traumatic stress.** In order to provide confirmatory evaluation of CBITS' efficacy on the reduction of students' traumatic stress, students' trauma symptoms were evaluated once a week utilizing the Childhood PTSD Symptom Scale (CPSS; see Appendix C), also used as a screening tool in this study. As previously mentioned, the CPSS is a 17-item, child/adolescent self-report measure, which demonstrates good psychometric characteristics, including adequate test-retest reliability (e.g., *r* ranging between .63 and .85 for the total score), and high internal consistency (e.g., .89 for the total score; Foa, Treadwell, Johnson, & Feeny, 2001). The impact of traumatic stress symptoms on daily functioning is measured with items that target areas such as schoolwork and relationship with one's family. At the beginning of each intervention session, treatment students rated how often they were bothered by each symptom in the past week on a scale from 0 "not at all" to 3 "almost always." Example items include: "Trying to avoid activities, people, or places that remind you of the event," "having much less interest in doing things you used to do," "having bad dreams/nightmares," and "having upsetting thoughts or images about the event that come into your head when you don't want them to." Students in the waitlist control group filled out the rating scale on a weekly basis, but did not receive the CBITS intervention. CPSS data were collected at baseline and throughout the intervention. Weekly numeric data were recorded as the frequency of experienced traumatic symptoms (range 0-51), with "51" being the maximum traumatic stress symptoms experienced on a weekly basis and "0" being the minimum. Scores "31" and indicate greater symptom severity and probable PTSD (Foa et al., 2001).

**Problematic classroom behavior.** Each student's problematic classroom behavior (i.e., internalizing and/or externalizing behavior) was measured using Direct Behavior Rating (DBR) scales (Chafouleas, Riley-Tillman, & Christ, 2009; see Appendix F). DBR has been found to have strong reliability (kappa coefficients ranging from .76 to .84), and validity evidence (.47-.83;

Chafouleas, 2011). DBR allows for the measurement of pre-specified student behaviors (e.g., talking with peers during teacher instruction, being out of seat without permission, talking out of turn, yelling/swearing) on a rating scale. An observer rates the percentage of time the individual engaged in a pre-specified behavior on a rating scale from 0-100%, with "0" signifying that the observer did not observe the behavior at all during the specified interval and "100" signifying that the behavior was present the entire duration of the observation. Research suggests that DBR data may be particularly useful in evaluating student's behavioral response to intervention (Chafouleas, 2011; Christ, Riley-Tillman, & Chafouleas, 2009). In addition, DBR is effective in measuring multiple target behaviors (e.g., Pelham et al., 2002) with varying functions (e.g., LeBel et al., 2013). As such, DBR scales have been frequently utilized for progress monitoring in single-case research (Chafouleas, 2011).

**Academic disengagement.** Students' academic disengagement with school and learning was observed directly in the classroom environment, and measured using an adapted time-sampling interval sheet consistent with best practice recommendations for the systematic direct observation of student behavior (Hintze, Volpe, & Shapiro, 2002; see Appendix G). Students' disengagement was measured after (1) identifying a complete operational definition for "academic disengagement," and (2) establishing the type of recording method utilized.

For the purpose of this study, academic disengagement was operationalized as the percentage of "off-task" behavior in the classroom setting during an observation. Consistent with extant literature, the construct of "off-task" behavior was chosen because it is a core feature of most internalizing and externalizing behaviors (Hintze & Matthews, 2004). The "off-task" classification included motor, verbal, and/or passive behaviors that were irrelevant to the academic task at hand. Off-task motor behaviors included motor activity that was not associated with the assigned academic task (e.g., throwing an object, leaving the classroom, wandering the room); off-task verbal

behavior included verbal disruptions that were not associated with the assigned academic task (e.g., side conversations with a peer, swearing/threatening/shouting, talking while the teacher was lecturing); and off-task passive behavior included passive non-engagement (e.g., looking out the window, sleeping, looking at the phone; Shapiro, 1996). For the purpose of this study, a decrease in off-task behaviors signified a decrease in academic disengagement.

This study used time-sampling interval recording to capture academic disengagement. The characteristics of time-sampling interval recording involve selecting a time period for observation, dividing the observational period into a number of equal intervals, and recording whether or not a specified target behavior occurred during each interval (Merrell, 1999). For the purpose of this study, a 20-minute observational session was selected and divided into 15-second intervals (total of 80 intervals per session). Observers utilized partial-interval recording, meaning they documented the occurrence of off-task behaviors if they occurred at any point during the 15-second interval (Hintze et al., 2002). Intervals containing an off-task occurrence were totaled and divided by the total number of intervals to generate a percentage that the student was academically disengaged (i.e., "off-task") during the observation (Hintze et al., 2002), with 100% indicating that the individual was academically disengaged the entirety of the observation.

**Intervention fidelity**. Treatment fidelity was documented utilizing the CBITS Fidelity Adherence Measure (Jaycox et al., 2004; see Appendix H). This measure was specifically designed by CBITS' developers to ensure that CBITS is implemented with fidelity. Items target three factors: element coverage, interventionist efficacy, and participation. The observer records whether the interventionist covers each session's element(s) on a scale from 0 "not covered at all" to 3 "the topic was covered thoroughly, and the interventionist integrated it into the larger context of therapy in an interactive style." Items vary depending on the administered session. For instance, session eight items ask whether the interventionist covered the following elements throughout the session:

Introduction to problem solving, negative thoughts, brainstorming solutions, and decision-making. The observer also rates the interventionist's efficacy in each session on a similar scale from 0 to 3, with items that ask whether the interventionist effectively summarized session materials, conveyed empathy, worked within a cognitive-behavioral framework, and managed the session (max interventionist efficacy score is 12). Lastly, the observer rates the student's participation in the session, motivation, and overall comprehension of material (max participation score is 9).

**Social validity.** It is important to evaluate the social validity of school-based interventions, particularly whether the treatment outcomes are acceptable, socially relevant, and useful for the students. The Children's Usage Rating Profile (CURP; Briesch & Chafouleas, 2009; Chafouleas, Briesch, Riley-Tillman, & McCoach, 2009) assesses personal desirability, feasibility, and understanding. These three interconnected aspects of students' perceptions of intervention are found to be important to future intervention utilization and success (Briesch & Chafouleas, 2009; see Appendix I). The personal desirability subscale measures whether or not the student personally liked the intervention and would be willing to participate in it again. Items on the feasibility subscale assess whether the student believed the intervention was too laborious or intrusive. Items within the understanding subscale assess whether the student understood why the intervention was being implemented, and felt confident that he/she could appropriately utilize the learned skills. Studies measuring CURP psychometric properties have shown high test-retest reliability, high internal consistency, and high convergent and discriminant validity (Chafouleas et al., 2009; Briesch, et al., 2013). Items are rated on a scale from "1" Strongly Disagree to "4" Strongly Agree. Example items include: "I could see myself using this method again," "this is a good way to help students," "this took too long to do," and "I liked this method." The CURP scoring guide (Briesch & Chafouleas, 2009) was utilized to calculate a cumulative raw score for each subscale. Raw scores were divided by the total max item scores for each subscale (personal desirability = 28, feasibility =

32, understanding = 24) to derive the student's overall percentage of reported personal desirability, feasibility, and understanding.

## Procedures

The following section offers a detailed description of this study's procedures, including informed consent/assent procedures, data collection, and intervention implementation. It should be noted that in order to participate in the aforementioned screening procedures to determine student eligibility for study participation, consent was obtained from legal guardians who volunteered their student for participation.

**Consent.** The researcher obtained consent/assent from all required individuals (i.e., legal guardians, students, and teachers). Consent was obtained from legal guardians who volunteered their student for study participation. The legal guardian was identified by the school district's database. Consistent with Wisconsin's Department of Public Instruction (DPI) guidelines, educational consent was requested from the individual named as the student's legal guardian, which was documented in the student's educational records at the high school. Consent forms were mailed directly to the student's legal guardian, as well as a description of the study, procedures, risks and benefits, compensation, voluntary participation, and confidentiality terms (see Appendix J). In addition, contact information was provided to facilitate communication of questions/concerns about participation in the study.

Student assent was obtained from all six participants, as they were minors under the age of 18 (see Appendix K). The researcher held an in-person assent process for students whose legal guardians expressed interest in the study. The purpose of the in-person assent process was to prevent students from being coerced by their legal guardians to participate by answering any questions prior to making a decision to agree/decline study participation. The study procedures, risks/benefits, compensation, confidentiality terms, and voluntary nature were explained to potential

participants. Participants were provided with opportunities to ask questions related to the intervention and procedures of the research study during this time. They were also given the primary investigator/researcher's contact information and encouraged to call if they had any further questions about study participation. Informed assent forms were handed out during the in-person session, and students were instructed to return signed forms to the researcher's office if they were interested in participating.

Once legal guardian and student assent had been obtained, the researcher gathered teacher consent from each student's English teacher and student support teacher. In this particular high school, each English class had two co-teachers to facilitate classroom learning. Prior to participating in screening and data collection, teachers were briefed on their role in the study (i.e., BASC-BESS screening tool completion, data collection), and consent forms were signed in-person after the teachers volunteered to participate (see Appendix L).

**Data collection.** Data were collected from students by the researcher and teachers. Teachers were blind to which students were receiving CBITS treatment and which were not. Fidelity data were collected by a third party observer (school social worker).

*Traumatic stress.* Traumatic stress (CPSS) data were collected on a weekly basis from both intervention and waitlist control students. At the beginning of each intervention session, treatment students rated how often they were bothered by each symptom in the past week on a scale from 0 "not at all" to 3 "almost always." Waitlist control students stopped by the office once a week to fill out the CPSS.

*Problematic classroom behavior.* Problematic behavior (DBR) data were collected from classroom teachers. All students were in different classrooms, and thus, had independent raters. Teachers completed DBR scales evaluating the student's behavioral functioning during English class. Teachers completed the DBR scales twice a week following a 50-minute class period on two

randomly selected days (e.g., Tuesday and Thursday). After a particular class period, teachers rated the percentage of time that the student engaged in their specific problematic classroom behavior (i.e., Student A = head on desk, Student B = cell phone use, Student C = off-task verbal) on a rating scale from 0-100%, with "0" signifying that the teacher did not observe the behavior at all during the specified interval and "100" signifying that the behavior was present the entire duration of class. DBR data collection procedures recommend providing teachers with training as training significantly improves their ability to accurately rate students' disruptive behaviors (Schlientz et al., 2009). The researcher provided teachers with training prior to having them collect DBR data. Specifically, training sessions included a description of DBR data collection procedures, opportunities to practice, and feedback. DBR data were collected at baseline and intervention conditions for treatment participants. DBR data were also collected for waitlist control participants on a weekly basis.

*Academic disengagement.* Academic disengagement (off-task) data were collected by classroom teachers. Students were observed in their English classes by their student support teachers. The researcher provided teachers with training to collect academic disengagement data, which included direct instruction, opportunities for practice, and feedback. The teacher observed the student twice a week (e.g., Tuesdays and Thursdays) for a 20-minute interval, and documented on-task/off-task behavior utilizing the adapted observational form. The teacher used interval recording with the aid of a stopwatch and noted whether the student was off-task at any point during the 15-second interval, by indicating an "X" in the checkbox interval (Hintze et al., 2002). At the conclusion of the observational session, the researcher recorded the percentage of off-task behavior (i.e., academic disengagement) by dividing the number of off-task intervals by the total number of intervals. Academic disengagement data were collected at baseline and intervention conditions for treatment participants. Data were also collected twice a week for waitlist control participants.

*Reliability.* In order to ensure reliability of observational data, interobserver agreement (IOA) was assessed on DBR and academic disengagement data. The What Works Clearinghouse (WWC) requires at least two independent assessors of the dependent variable so that interrater reliability can be assessed on at least 20% of the data in each condition (Kratochwill et al., 2010). Accordingly, the classroom teacher and student support teacher concurrently evaluated 20% of DBR observations and 20% of academic disengagement observations for each student involved in the study. That is, both teachers observed the student's behavior during the same interval. It should be noted that during IOA checks that required both teachers to complete observational forms, the class engaged in activities that did not require the teacher's explicit instruction (i.e., silent reading, independent work completion, group work, and/or student presentations). The percentage of agreement was calculated by dividing the number of teacher agreements by the total number of observed sessions, and multiplying by 100. Percentage agreement between observers for DBR and academic engagement are reported in the results.

*Fidelity.* In order to ensure that the CBITS intervention was implemented with documented fidelity by the researcher, 20% (i.e., 2 CBITS) sessions were audiotaped for each participant in the study. Participants in the study were notified beforehand (i.e., in the assent/consent form as well as verbally by the researcher) that two of their sessions would be randomly recorded for the purpose of ensuring the researcher's fidelity of implementation. An impartial third party observer who was also trained in CBITS implementation (i.e., the school social worker) listened to audiotaped sessions and completed the CBITS Fidelity Adherence Measure (see Appendix H) in order to document that the researcher was following manualized procedures.

*Social validity.* Following the conclusion of CBITS, intervention students were asked to complete the CURP (Briesch & Chafouleas, 2009; Chafouleas, Briesch, Riley-Tillman, & McCoach, 2009) to determine the social validity of utilizing CBITS as an intervention method. During the

final session of intervention, students rated survey items assessing personal desirability, feasibility, and understanding.

**Intervention implementation.** The CBITS program began in September, 2018 and was administered by the researcher. The CBITS manual (Jaycox, 2002) recommends that CBITS is delivered by a school-based mental health practitioner. Consistently, the researcher was working as a school psychologist and had been trained and certified in CBITS implementation (see Appendix M). The course of the program consisted of 10 individual (i.e., one-to-one) student sessions, one voluntary session delivered to parents, and one teacher session delivered to classroom teachers participating in the study. The following section provides a detailed description of intervention delivery, manualized sessions, parent/teacher training sessions, and experimental control.

***Intervention delivery.*** According to the CBITS manual (Jaycox, 2002), CBITS should be delivered once a week for a 10-week period, with each individual session lasting approximately 50 minutes. The researcher consulted with legal guardians and student participants to determine a weekly day/time for each student to receive intervention. For all students, intervention time took place during their study hall period or immediately following the school day to prevent loss of instructional time during class and to interfere minimally with other after-school activities or obligations (Crosby, 2015). Traveling and transportation arrangements following CBITS sessions were made in advance with the legal guardian responsible for the student.

Weekly student sessions were delivered individually to the student participant in order to preserve confidentiality, and based on practice guidelines identified by extant research. Specifically, one of the main contributors to intervention success highlighted across reviewed studies included delivering interventions to youth in OHC on a one-to-one basis rather than in small-group or large-group settings (Forsman & Vinnerljung, 2012). Among the implemented interventions identified in the review, the majority relied on an individual learning model rather than group delivery (Forsman

& Vinnerljung, 2012). This finding suggests that students in OHC may benefit from individualized programming and support to improve academic and social-emotional skills. Intervention delivery on an individual basis may be particularly beneficial for youth in OHC given their unique experiences with trauma and circumstances surrounding CPS involvement (Evans et al., 2017).

***Manualized sessions.*** Each weekly student session was structured in accordance with the recommendations provided by the developers of CBITS (Jaycox, 2004; Schultz et al., 2010). Student sessions were guided by the CBITS manual as well as a toolkit specifically designed to adapt CBITS for use with youth in foster care (Schultz et al., 2010). Manualized sessions focused on teaching students skills in relaxation, challenging upsetting thoughts, social problem solving, and processing traumatic memories and grief (Jaycox, 2004). Manualized sessions did not explicitly target problematic classroom behaviors specific to those reported by the teachers in this study. A typical 50-minute session consisted of the participant checking-in and processing with the researcher, completing a weekly traumatic symptom measure (i.e., CPSS), explicit skill instruction, opportunity for skill practice, and the assignment of a homework worksheet for the following week's session. Students who missed a weekly session (i.e., due to absence) were re-scheduled with the researcher at the earliest convenience. Following the conclusion of each week's session, the student was given a $5 gift card to Target or Walmart for his/her participation in the study. Compensation was provided each week that the student participated in the intervention (maximum compensation of $50 over a total of 10 weekly CBITS sessions). The following table provides a complete description of student session contents.

Table 2

*CBITS Sessions Outline*

| Session | Content |
|---|---|
| Student Programming | |

| | |
|---|---|
| 1 | • Introduction to CBITS, rules of sessions, discussion of confidentiality<br>• Storytelling as therapy<br>• Discussion of stressful/traumatic experiences |
| 2 | • Psychoeducation: Common reactions to trauma<br>• Relaxation training |
| 3 | • Fear thermometer exercise<br>• Psychoeducation: CBT-Associations between thoughts, feelings, behaviors |
| 4 | • Imaginal and verbal exposure to trauma exercise<br>• Psychoeducation: Combating negative thoughts |
| 5 | • Fear hierarchy exercise<br>• Psychoeducation: Avoidance<br>• Psychoeducation: Alternative coping mechanisms |
| 6 | • Imaginal or written exposure to trauma practice |
| 7 | • Imaginal or written exposure to trauma practice |
| 8 | • Psychoeducation: Social problem-solving |
| 9 | • Practice with social problem-solving |
| 10 | • Psychoeducation: Relapse prevention |
| Parent Programming | |
| 1 | • Education about reactions to trauma, how we explain fear, relaxation |
| | • How CBITS teaches children to change thoughts/actions |
| Teacher Programming | |
| 1 | • Education about reactions to trauma, elements of the CBITS program, tips for teaching youth who have been traumatized |

The toolkit designed to assist school-based mental health professionals in adapting CBITS for youth in foster care was used in conjunction with the CBITS manual for this study (Schultz et al., 2010). Specifically, the researcher closely followed toolkit recommendations to facilitate CBITS with youth in foster care, including preparing service delivery, preparing student participants, and adapting CBITS to include program lessons, activities, and examples specifically designed for youth in foster care (Schultz et al., 2010).

***Parent and teacher training sessions.*** Legal guardians were invited to attend a voluntary parent educational session. Legal guardians of two out of three target students voluntarily attended a parent training session. In order to preserve confidentiality, parent training was delivered on an individual basis. The session focused on providing parents/guardians with psychoeducation about common reactions to trauma, and strategies to help their students combat negative thoughts related

to involvement in OHC. During this session, the researcher answered questions about CBITS concepts learned throughout the intervention (e.g., relaxation techniques, challenging upsetting thoughts). Common questions that were asked included: "How can I help my student process negative experiences related to their previous placement?" and "how can CBITS strategies be used at home?"

Mandatory teacher training sessions were held for all teachers involved in the study, at the convenience of the teachers' schedules. Not only were teachers trained in data collection during this time, they were also presented with a broad overview of the CBITS program. The researcher provided teachers with psychoeducation about trauma and its effects on students' ability to perform in the classroom, as well as strategies to support traumatized youth in the classroom. No data were collected or analyzed as a part of these training sessions.

***Experimental control.*** In order to document experimental control, three out of six students were waitlisted as a control group to receive CBITS the following academic year. The six student participants were randomly assigned (i.e., utilizing a random number generator) to the treatment group (scheduled to receive CBITS immediately) and the waitlist control group (scheduled to receive CBITS the following year). Based on recommendations noted in other randomized controlled trials of CBITS (e.g., Kataoka et al., 2011), this study utilized treatment and control groups that received CBITS during different school years rather than the same school year in order to more fully examine the effect of CBITS on school success. As such, potential confounding factors (e.g., maturation, history) were better controlled.

**Single-Case Design**

In order to answer the research questions in this study, a single-case design was utilized to determine whether a functional relation existed between the independent variable (CBITS implementation) and dependent variables (traumatic stress symptoms, problematic classroom

behavior, and academic disengagement). Since the methodology was first operationalized over 50 years ago (Sidman, 1960), numerous evidence-based interventions have emerged and have been evaluated through single-case research methods (Horner et al., 2005).

Single-case research is experimental and its purpose is to document functional relations between independent and dependent variables of interest (Horner et al., 2005). A single-case study is particularly relevant for defining educational practices at the level of the individual (Horner et al., 2005). In this study, the researcher was interested in investigating whether an intervention program (i.e., CBITS) caused changes in school outcomes for each individual student (Morgan & Morgan, 2009). A single-case design was chosen over a group design, because the central interest was to draw inferences about individual behavior. Given the unique circumstances surrounding OHC youth, it is expected that one youth's interpretation, response to trauma, and presenting symptomology may be different than another youth's. As such, it was critical to understand whether CBITS had an impact on *each* individual youth's particular behaviors and/or circumstances apart from the general group. In this study, each individual served as his/her own control (Horner et al., 2005), and outcome measures were compared between baseline and treatment conditions. Specifically, students' traumatic stress symptoms (CPSS), problematic classroom behavior (DBR), and academic disengagement (off-task) data were evaluated at the individual level.

Single-case studies typically involve multiple participants, with each participant serving as his/her own control (Horner et al., 2005). Participants' performance is measured during baseline (i.e., treatment as usual) and intervention conditions. Then, performance is compared between conditions to determine whether a functional relation exists between the independent and dependent variable(s). Accordingly in this study, student data (i.e., traumatic stress, problematic classroom behavior, and academic disengagement) were collected multiple times throughout baseline and intervention conditions. The repeated measurement of participants' outcomes was critical to

determine whether a functional relation existed (i.e., whether the implementation of CBITS resulted in decreased traumatic stress symptoms, problematic behaviors, and academic disengagement) as it allowed for the comparison of participant performance with his/her own prior performance (Horner et al., 2005). In general, experimental control is demonstrated when the researcher has documented *three* instances of the effect at three different points in time with a single participant (within-subject replication), or across different participants (inter-subject replication; Horner et al., 2005).

A multiple baseline across participants design was employed in this study, allowing for within- and between-subject comparisons to determine causality and to control for major threats to internal validity (Kazdin, 1982). The multiple baseline design requires the introduction of CBITS to be staggered across participants. Consistent with Kratochwill and Levin's (2010) guidelines, treatment participants were randomly assigned to one of three staggered intervention start points. Some researchers utilize randomized start-point designs in which they randomly determine the specific time points at which the next phase (i.e., intervention) occurs (Kratochwill & Levin, 2010). Traditional randomized phase start-point designs allow the researcher flexibility to determine when to change phases (e.g., such as when stability in one phase has been reached; Kratochwill & Levin, 2010). Given the time constraints in this study, a more fixed approach was utilized such that each treatment participant received the first session of CBITS approximately two weeks apart from one another. Experimental control was documented by staggering the introduction of the intervention across multiple participants over time, and observing the covariation in behavioral change (i.e., school outcomes) across participants (Horner et al., 2005). Further experimental control was documented by utilizing waitlist control students. That is, three students were randomly assigned to the treatment group and three to the waitlist control group. The inclusion of waitlist control students allows us to assess whether threats to validity (e.g., maturation effects, history, statistical regression;

Kratochwill et al., 2010) were evident, thereby providing further support of a functional relation between the independent variable (CBITS) and dependent variables (school outcomes).

**Data Analysis**

Visual analysis is the standard by which single-case design data are most commonly analyzed (Parker, Cryer, & Byrns, 2006). Student outcomes were graphed and visual analysis was utilized in this study to determine if a functional relation existed between the independent variable (i.e., CBITS) and dependent variables (traumatic stress, problematic classroom behavior, and academic disengagement). According to the What Works Clearinghouse (WWC) guidelines for conducting visual analysis, four steps are required: (1) Documentation of a predictable baseline pattern of data, (2) an examination of data within each condition (i.e., baseline and intervention) to assess within-condition pattern, (3) a comparison of data from each condition with data in the adjacent condition to assess whether manipulation of the independent variable was associated with an effect, and (4) an integration of information from all conditions of the study to determine whether three or more demonstrations of an effect are present at different points in time (Horner et al., 2005; Kratochwill et al., 2010).

In addition to the aforementioned steps, visual analysis involves an evaluation of the level, trend, variability, overlap, immediacy, and consistency of data (Kratochwill et al., 2010; Parker et al., 2006). These six features are assessed individually and collectively to determine whether a causal relation exists between the independent and dependent variables (Kratochwill et al., 2010). Level is generally referred to as the average value of the data pattern, trend as the direction of the data progression, and variability as the stability/fluctuation of data (Gast, 2005; Wolery & Harris, 1982). The level, trend, and variability of data are examined within a condition in order to describe

the observed pattern of behavior (Horner et al., 2005). In addition to documenting within-condition data trends, a between-condition analysis includes an evaluation of overlap, immediacy, and consistency of data between the baseline and intervention conditions. The degree of overlap refers to the proportion of data from one condition (intervention) that overlaps with data from the previous condition (baseline). A smaller proportion of overlapping data yields a more compelling demonstration of an effect (Kratochwill et al., 2010). Immediacy refers to the change in level (i.e., mean score) between the last three data points in one condition and the first three data points of the next (Kratochwill et al., 2010). A rapid or immediate effect following the implementation of the independent variable (i.e., CBITS intervention) allows us to infer that the change in behavior was due to the manipulation of the independent variable. Lastly, consistency of data involves examining the extent to which data patterns from phases with the same conditions (e.g., intervention conditions across participants A, B, and C) are similar. The greater the consistency, the more likely the data represent a causal relation (Kratochwill et al., 2010). Each student's outcome data were recorded on a line graph in order to facilitate visual analysis of level, trend, variability, overlap, immediacy, and consistency of data occurring both within and between baseline/intervention conditions (Horner et al., 2005; Lane & Gast, 2014).

***Baseline pattern.*** There are two purposes for baseline data: (1) To document a pattern of behavior in need of change (i.e., high academic disengagement), and (2) to document a data pattern with little or no trend that allows for comparison with a new pattern following intervention (Kratochwill et al., 2010). In a review of standards guiding the provision and analysis of single-case design research, Smith (2012) noted establishing a stable (i.e., limited variability) baseline before manipulating the independent variable is essential to inferring an effect. Although the exact number of data points necessary to establish a baseline has not been agreed upon by existing guidelines (Smith, 2012), the minimum of three data points continues to be standard practice as noted by the

What Works Clearinghouse (Kratochwill et al., 2010), the APA Division 12 Task Force on Psychological Interventions (Chambless & Ollendick, 2001), and the APA Division 16 Task Force on Evidence-Based Interventions in School Psychology (Kratochwill, 2003). Highly variable baseline data may require a longer baseline to establish stability (Kratochwill et al., 2010). Consistent with these guidelines, a minimum of three baseline data points (or more) were collected for each student.

***Within-condition analysis.*** A within-condition analysis involves the evaluation of level, trend, and variability of data within a single condition (e.g., intervention; Kratochwill et al., 2010). Lane and Gast (2014) provide seven steps to assist researchers in visually analyzing within-condition data. This study followed the predetermined guidelines developed by Lane and Gast (2014) by assigning a letter to each condition (i.e., A=baseline, B=intervention; Step 1), counting the number of sessions for each condition (Step 2), and calculating the mean, median, range, and stability envelope for each condition (Step 3). In order to calculate stability envelope, a stability criterion was set and the percentage of data points within the stability envelope was calculated. In this study, the stability envelope for each condition was 80% of data points within +/- 25% of the median. The percentage of data points within the stability envelope was reported and data were characterized as stable (80% or more falling within the stability envelope) or variable. The level of change within each condition (Step 4) was calculated by obtaining the difference between the first and last data point within each condition. The trend of data was calculated using the split-middle method of trend estimation in order to obtain the *relative* and *absolute* level change (Step 5). *Relative* level change was determined by splitting the data within each condition in half, identifying the median value for each half, and subtracting the smallest value from the largest value to note if the values were "improving" or "deteriorating." In this study, decreasing scores in the areas of traumatic stress symptoms, problematic classroom behaviors, and academic disengagement

signified values were improving. *Absolute* level change was determined by identifying the first/last data values within a condition, and subtracting the smallest value from the largest value to note if the change was "improving" or "deteriorating." Lastly, variability of data was calculated by determining the percentage of data points within the stability envelope for each condition (Step 6) and using the "freehand method" to evaluate data paths (Step 7).

***Between-condition analysis.*** Lane and Gast (2014) also demonstrate a series of steps to visually analyze data between baseline and intervention conditions in order to provide evidence for a functional relation. This study followed the predetermined guidelines developed by Lane and Gast (2014) by determining the number of variables changed between conditions (Step 1). Data trend was determined by identifying the trend direction across adjacent conditions as accelerating, decelerating, or zero-celerating in a therapeutic or contra-therapeutic direction (Step 2). After identifying the trend direction, results were compared with the data trend observed in the within-condition analyses to determine if there was a change in performance across conditions (Step 3). Then, the relative, absolute, median, and mean level change were calculated using the same procedures listed in the within-condition analysis (Step 4).

***Integration of information.*** Lastly, documentation of a functional relation requires an integration of all the information from all conditions of the study to determine whether there are at least three demonstrations of an effect at different points in time (Kratochwill et al., 2010). This refers to a "big-picture" evaluation to determine whether the intervention produced the desired effect across different participants at different times. In order to determine experimental control, there must be a minimum of three demonstrations of the effect at three different points in time (Kratochwill et al., 2010). Accordingly, the multiple baseline design across participants allowed us to stagger the introduction of CBITS across time and three different participants, which ensured experimental control, and allowed us to infer an intervention effect once a functional relation was

found. Experimental effect was demonstrated when the outcome measures (i.e., traumatic stress, problematic classroom behavior, and academic disengagement) covaried with the introduction of CBITS based on the visual analysis of the aforementioned six features. Additionally, the use of a waitlist control group further helped determine if students' outcomes improved as a result of the intervention, and not by other potential confounding factors (e.g., history, maturation).

The proportion of overlapping data in adjacent baseline/intervention phases was calculated using the robust improvement rate difference (IRD; Parker, Vannest, & Brown, 2009) effect-size statistic. Calculating the effect size helped determine the magnitude of the effect (Horner et al., 2005, 2012; Kratochwill et al., 2010). IRD is conceptualized as the difference in improvement rates between baseline and intervention conditions (Parker et al., 2009). This particular effect size index was chosen because I was interested in determining whether the introduction of CBITS made a considerable impact on traumatic stress symptoms, problematic classroom behavior, and academic disengagement compared to baseline conditions (i.e., not having CBITS). The researcher anticipated that providing CBITS would give us a large IRD statistic such that the student experiences a high rate of improvement in behavior between baseline and intervention conditions. The maximum IRD score is 100% or 1.00, in which case all intervention phase scores exceed all baseline scores in an improvement direction (Parker et al., 2009). When IRD is 50%, there is only chance-level improvement from baseline to treatment phases. Negative IRD values (-100% or -1.00) indicate deterioration (decrease) of behavior below baseline levels. As such, in this study, the research anticipated negative IRD values for research questions one through three, which would indicate traumatic stress symptoms, problematic classroom behaviors, and academic disengagement scores fell below baseline levels.

**Ethical Considerations**

Before the data collection process, the approval of the institutional review board was secured. Several research safeguards were put into place in order to ensure the confidentiality of participants. First, to prevent any unnecessary stigma attached to participants being identified as students residing in out-of-home care, this information was only shared with the primary investigator and researcher. Second, it was possible that participants may have experienced psychological risk while partaking in the intervention (i.e., processing traumatic experiences or grief, being identified as somebody who has experienced trauma). However, participants selected to receive the intervention were anticipated to experience certain benefits that outweighed the potential risk of participation. Prior to obtaining consent/assent, the researcher explained the concept of voluntary participation and withdrawal without penalty at any time during the study. In any case, several safeguards were in place to minimize potential psychological risk: (1) The intervention was delivered individually in order to maintain confidentiality of student participation and information shared in sessions, (2) the intervention took place in the psychologist's private office so that participants were not accessible to other students/peers, (3) participants were encouraged to utilize skills learned in sessions to process through any psychological risk they experienced, (4) additional support was offered by the researcher (i.e., school psychologist), school social worker, and administrative staff outside of the sessions if necessary or requested, and (5) the researcher referred the student to further psychological services outside of school if the concerns were not addressed by the team.

In terms of data collection and storage, data were only made available to the primary investigator/researcher. Data were recorded and maintained by the researcher. Data were stored in a locked office and electronically in a password-protected file, only accessible to the primary investigator and researcher. All data kept in an electronic file will be deleted after five years; accordingly, any physical copies of the data will also be destroyed. In order to maintain

confidentiality of participant data and information, participants were assigned IDs in the recording process, so names/demographic characteristics could not be matched to the student.

# CHAPTER V: RESULTS

## Research Question 1: Effect of CBITS on Traumatic Stress

The first research question addressed the functional relationship between CBITS and traumatic stress symptoms, as measured by the Child Posttraumatic Symptom Scale (CPSS; Foa et al., 2001). It was hypothesized that implementation of CBITS would be associated with an observable decrease in each participant's CPSS score below baseline levels. Data from each participant are presented individually below.

**Student A.** As shown in the top panel of Figure 1, within-condition visual analysis of Student A's CPSS data indicated a stable baseline phase. CPSS scores during the baseline condition were elevated, averaging 40 (range = 38-42, median = 40; 100% of scores fell within the stability envelope). CPSS scores during the intervention condition were stable, and averaged 17 (range = 13-26, median = 16; 80% of scores fell within the stability envelope). The first three data points within the intervention condition followed an increasing trend. It should be noted that during the first month of intervention, Student A expressed suicidal ideation and was hospitalized at an inpatient psychiatric facility for several days. Once released, her Foster Mom began looking into more restrictive long-term residential options, and this created a significant amount of stress for Student A. As a result, her traumatic stress symptoms increased during this time frame, but decreased at the end of session four, and continued to decrease throughout the remainder of the intervention. Evaluation of absolute level change and split-method indicated a decelerating trend direction, such

that symptom scores were improving throughout the intervention condition. Trend direction was not estimated during the baseline condition due to limited data points.

When CBITS was implemented, between-condition visual analysis of Student A's data indicated an immediate decrease in level of CPSS scores below baseline levels (e.g., mean scores shifted from 40 to 17 across adjacent phases). The median, mean, relative, and absolute levels of change were calculated. All level change measures indicated improving scores across conditions. Both median and mean level of change across conditions indicated an improving trend. An evaluation of absolute and relative level change between conditions indicated a decelerating trend in a therapeutic (improving) direction, which was consistent with the within-condition analysis of trend in the intervention condition. With regards to overlapping data, calculation of the improvement rate difference (IRD) indicated there was -100% non-overlap of CPSS scores observed during baseline and intervention. Given the immediate shift in level, presence of an intercept gap between conditions, and decelerating trend in a therapeutic (improving) direction, there appears to be sufficient evidence to suggest a basic effect of implementation of CBITS and a decrease (i.e., improvement) in traumatic stress symptoms (i.e., CPSS scores) for Student A.

**Student B.** As shown in the second panel of Figure 1, within-condition visual analysis of Student B's CPSS data indicated a stable baseline phase. CPSS scores during the baseline condition were elevated, averaging 20.8 (range = 20-21, median = 21; 100% of scores fell within the stability envelope). CPSS scores during the intervention condition were stable, and averaged 10.4 (range = 7-14, median = 10; 80% of scores fell within the stability envelope). Evaluation of absolute level change within conditions indicated symptom scores were steady during the baseline condition, and improving during intervention. Split-middle method of trend estimation was also conducted and indicated there was a decreasing trend in a therapeutic direction within the intervention condition.

When CBITS was implemented, between-condition visual analysis of Student B's data indicated an immediate decrease in CPSS scores below baseline levels (e.g., mean scores shifted from 20.8 to 10.4 across adjacent phases). The median, mean, relative, and absolute levels of change were calculated. All level change measures indicated improving scores across conditions. Both median and mean level of change across conditions indicated an improving trend. An evaluation of absolute and relative level change between conditions indicated a decelerating trend in a therapeutic (improving) direction, which was consistent with the within-condition analysis of trend in the intervention condition. With regards to overlapping data, calculation of the improvement rate difference (IRD) indicated there was -100% non-overlap of CPSS scores observed during baseline and intervention. Given the immediate shift in level, presence of an intercept gap between conditions, and decelerating trend in a therapeutic (improving) direction, there appears to be sufficient evidence to suggest a basic effect of implementation of CBITS and a decrease (i.e., improvement) in traumatic stress symptoms (i.e., CPSS scores) for Student B.

**Student C.** As shown in the third panel of Figure 1, within-condition visual analysis of Student C's CPSS data indicated a stable baseline phase. CPSS scores during the baseline condition were elevated, averaging 27.3 (range = 26-28, median = 27; 100% of scores fell within the stability envelope). CPSS scores during the intervention condition were stable, and averaged 13.2 (range = 10-17, median = 14; 100% of scores fell within the stability envelope). Evaluation of absolute level change within conditions indicated symptom scores deteriorating (increasing) during the baseline condition, and improving during intervention. Split-middle method of trend estimation was also conducted and indicated there was a decreasing trend in a therapeutic direction within the intervention condition.

When CBITS was implemented, between-condition visual analysis of Student C's data indicated an immediate decrease in level of CPSS scores below baseline levels (e.g., mean scores

shifted from 27.3 to 13.2 across adjacent phases). The median, mean, relative, and absolute levels of change were calculated. All level change measures indicated improving scores across conditions. Both median and mean level of change across conditions indicated an improving trend. An evaluation of absolute and relative level change between conditions indicated a decelerating trend in a therapeutic (improving) direction, which was consistent with the within-condition analysis of trend in the intervention condition. With regards to overlapping data, calculation of the improvement rate difference (IRD) indicated there was -100% non-overlap of CPSS scores observed during baseline and intervention. Given the immediate shift in level, presence of an intercept gap between conditions, and decelerating trend in a therapeutic (improving) direction, there appears to be sufficient evidence to suggest a basic effect of implementation of CBITS and a decrease (i.e., improvement) in traumatic stress symptoms (i.e., CPSS scores) for Student C.

**Waitlist controls (students D, E, F).** Students D, E, and F did not receive CBITS. As shown in the bottom three panels of Figure 1, Student D's CPSS scores were elevated, averaging 35.3 (range = 30-37, median = 36; 100% of scores fell within the stability envelope, indicating a stable pattern). Student E's CPSS scores were elevated, averaging 30.1 (range = 28-32, median = 30; 100% of scores fell within the stability envelope, indicating a stable pattern). Student F's CPSS scores were elevated, averaging 31.1 (range = 29-34, median = 31; 100% of scores fell within the stability envelope, indicating a stable pattern). Evaluation of relative and absolute levels of change indicated minimal change in symptom scores for Students D, E, and F.

**Integration of information.** Given that there were three demonstrations of an effect across different participants at different points in time, there appears to be sufficient evidence to suggest a functional relation between implementation of CBITS and a decrease in traumatic stress symptoms. This decelerating effect was evident across all intervention conditions for Students A, B, and C. This same effect was not present for waitlist control participants, as data resembled a flat line with

no evidence of score improvement or deterioration. When assessing the effect size, the maximum IRD was attained (-100%) for all intervention participants, meaning all intervention phase traumatic stress values fell below baseline levels across all intervention participants.

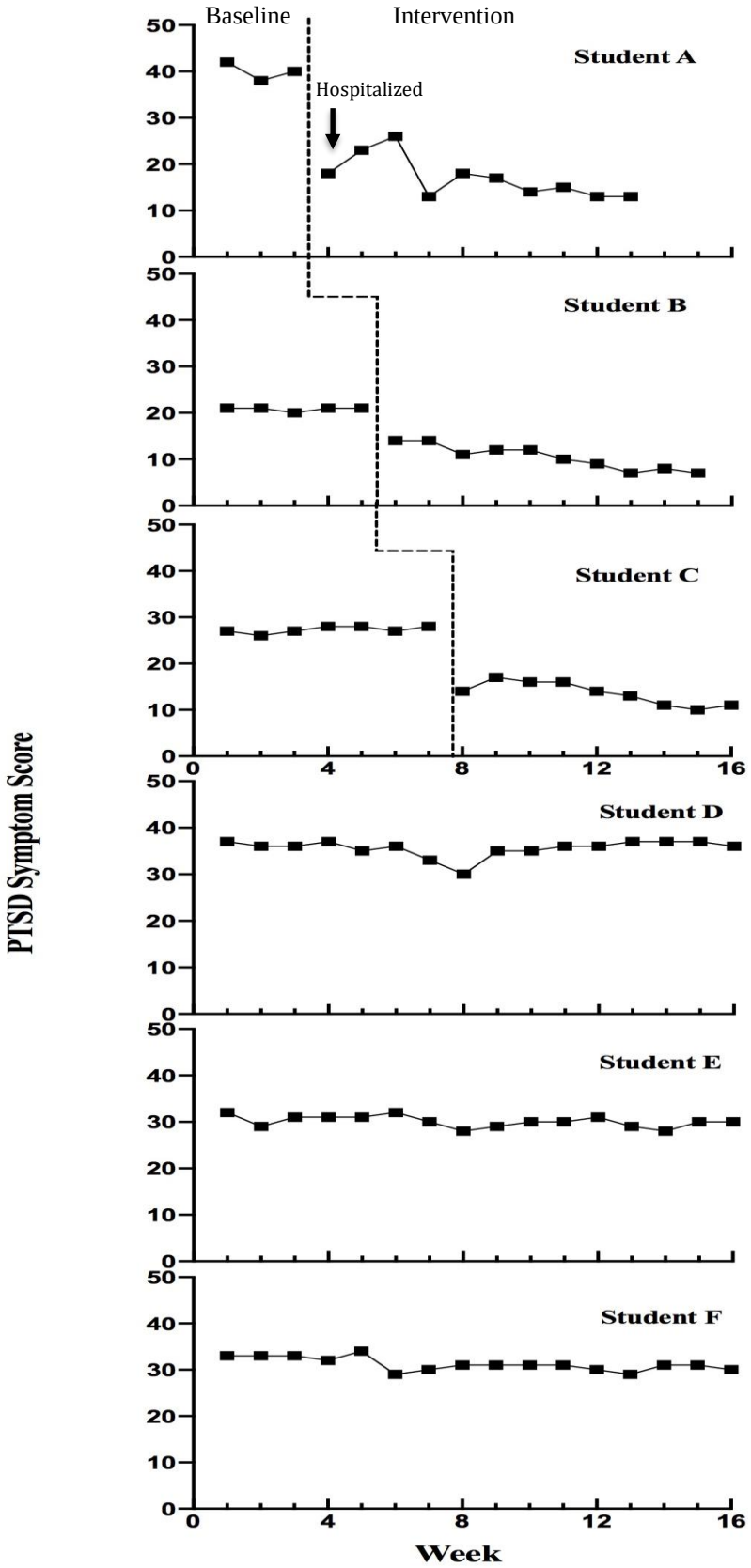


*Figure 1.* Weekly self-reported CPSS scores for intervention and waitlist control students.

**Research Question 2: Effect of CBITS on Problematic Classroom Behavior**

The second research question addressed the functional relationship between CBITS and problematic classroom behavior (i.e., internalizing/externalizing behavior), as measured by Direct Behavior Rating (DBR) scales (Chafouleas et al., 2009). It was hypothesized that implementation of CBITS would be associated with an observable decrease in each participant's problematic classroom behavior below baseline levels. Data from each participant are presented individually below.

**Student A.** As shown in the top panel of Figure 2, within-condition visual analysis of Student A's DBR data showing percentage of time with her head on the desk indicated a stable baseline phase. DBR scores during the baseline condition were high, averaging 90% (range = 90%-90%, median = 90%; 100% of scores fell within the stability envelope). DBR scores during the intervention condition were variable, and averaged 30.5% (range = 0%-60%, median = 20%; 30% of scores fell within the stability envelope). Evaluation of absolute level change within conditions indicated a decelerating trend direction during the intervention condition, such that Student A's problematic behavior (i.e., head on desk) was decreasing based on her DBR scores. No level change was observed during the baseline condition. Results of split-middle method of trend estimation indicated there was a decreasing trend in a therapeutic direction within the intervention condition.

When CBITS was implemented, between-condition visual analysis of Student A's data indicated an immediate decrease in DBR scores below baseline levels (e.g., mean scores shifted from 90% to 30.5% across adjacent phases). The median, mean, relative, and absolute levels of change were calculated. All level change measures indicated improving scores across conditions. Both median and mean level of change across conditions indicated an improving trend. An evaluation of absolute and relative level change between conditions indicated a decelerating trend in a therapeutic (improving) direction, which was consistent with the within-condition analysis of

trend in the intervention condition. With regards to overlapping data, calculation of the improvement rate difference (IRD) indicated there was -100% non-overlap of DBR scores observed during baseline and intervention. Given the immediate shift in level, presence of an intercept gap between conditions, and decelerating trend in a therapeutic (improving) direction, there appears to be sufficient evidence to suggest a basic effect of implementation of CBITS and a decrease (i.e., improvement) in problematic classroom behavior (i.e., DBR scores) for Student A.

**Student B.** As shown in the second panel of Figure 2, within-condition visual analysis of Student B's DBR data showing percentage of time playing on his cell phone indicated a stable baseline phase. DBR scores during the baseline condition were high, averaging 95% (range = 90%-100%, median = 95%; 100% of scores fell within the stability envelope). DBR scores during the intervention condition were variable, and averaged 30% (range = 0%-70%, median = 20%; 30% of scores fell within the stability envelope). Evaluation of absolute level change within conditions indicated a decelerating trend direction in the intervention condition, and minimal change during baseline. Split-middle method of trend estimation was also conducted and indicated there was a decreasing trend in a therapeutic direction within the intervention condition, such that Student B's problematic behavior (i.e., cell phone use) was improving based on his DBR scores

When CBITS was implemented, between-condition visual analysis of Student B's data indicated an immediate decrease in DBR scores below baseline levels (e.g., mean scores shifted from 95% to 30% across adjacent phases). The median, mean, relative, and absolute levels of change were calculated. All level change measures indicated improving scores across conditions. Both median and mean level of change across conditions indicated an improving trend. An evaluation of absolute and relative level change between conditions indicated a decelerating trend in a therapeutic (improving) direction, which was consistent with the within-condition analysis of trend in the intervention condition. With regards to overlapping data, calculation of the

improvement rate difference (IRD) indicated there were -100% non-overlap of DBR scores observed during baseline and intervention. Given the immediate shift in level, presence of an intercept gap between conditions, and decelerating trend in a therapeutic (improving) direction, there appears to be sufficient evidence to suggest a basic effect of implementation of CBITS and a decrease (i.e., improvement) in problematic classroom behavior (i.e., DBR scores) for Student B.

**Student C.** As shown in the third panel of Figure 2, within-condition visual analysis of Student C's DBR data showing percentage of engaging in verbally off-task behavior indicated a stable baseline phase. DBR scores during the baseline condition were high, averaging 88% (range = 80%-100%, median = 90%; 100% of scores fell within the stability envelope). DBR scores during the intervention condition were variable, and averaged 54% (range = 30%-90%, median = 50%; 70% of scores fell within the stability envelope). Evaluation of absolute level change within conditions indicated a decelerating trend direction during the intervention condition, such that Student C's problematic behavior (i.e., verbally off-task) was improving based on his DBR scores. No level change was observed during the baseline condition. Split-middle method of trend estimation was also conducted and indicated there was a decreasing trend in a therapeutic direction within the intervention condition.

When CBITS was implemented, between-condition visual analysis of Student C's data indicated an initial immediate decrease in DBR scores below baseline levels (e.g., mean scores shifted from 88% to 54% across adjacent phases). The median, mean, relative, and absolute levels of change were calculated. All level change measures indicated an improving change across conditions. Both median and mean level of change across conditions indicated an improving trend. An evaluation of absolute and relative level change between conditions indicated a decelerating trend in a therapeutic (improving) direction, which was consistent with the within-condition analysis of trend in the intervention condition. With regards to overlapping data, calculation of the

improvement rate difference (IRD) indicated there was -81.6% non-overlap of DBR scores observed during baseline and intervention. Given the immediate shift in level, presence of an intercept gap between conditions, and decelerating trend in a therapeutic (improving) direction, there appears to be sufficient evidence to suggest a basic effect of implementation of CBITS and a decrease (i.e., improvement) in problematic classroom behavior (i.e., DBR scores) for Student C.

**Waitlist controls (students D, E, F).** Students D, E, and F did not receive CBITS. As shown in the bottom three panels of Figure 2, Student D's DBR scores were elevated, averaging 55% (range = 0-80%, median = 55%; 50% of scores fell within the stability envelope, indicating a variable pattern). Student E's DBR scores were elevated, averaging 69.6% (range = 40-100%, median = 70%; 67.9% of scores fell within the stability envelope, indicating a variable pattern). Student F's DBR scores were elevated, averaging 78.1% (range = 50-100%, median = 80%; 90.6% of scores fell within the stability envelope, indicating a stable pattern). Evaluation of relative and absolute levels of change indicated symptom scores decreasing for Student D, and no change for Students E and F. It should be noted that Student D's data had an outlier, which may have impacted analysis of level change.

**Integration of information.** Given that there were three demonstrations of an effect across different participants at different points in time, there appears to be sufficient evidence to suggest a functional relation between implementation of CBITS and a decrease in problematic classroom behaviors. This decelerating effect was evident across all intervention conditions for Students A, B, and C. This same effect was not present for waitlist control participants, as problematic behaviors were consistently elevated, albeit with moderate variability for Students D and E. When assessing the effect size, there was a high percentage of non-overlap with IRD values ranging from -81.6% to -100% for intervention participants, meaning the majority of problematic behavior values fell below baseline levels across all intervention participants.

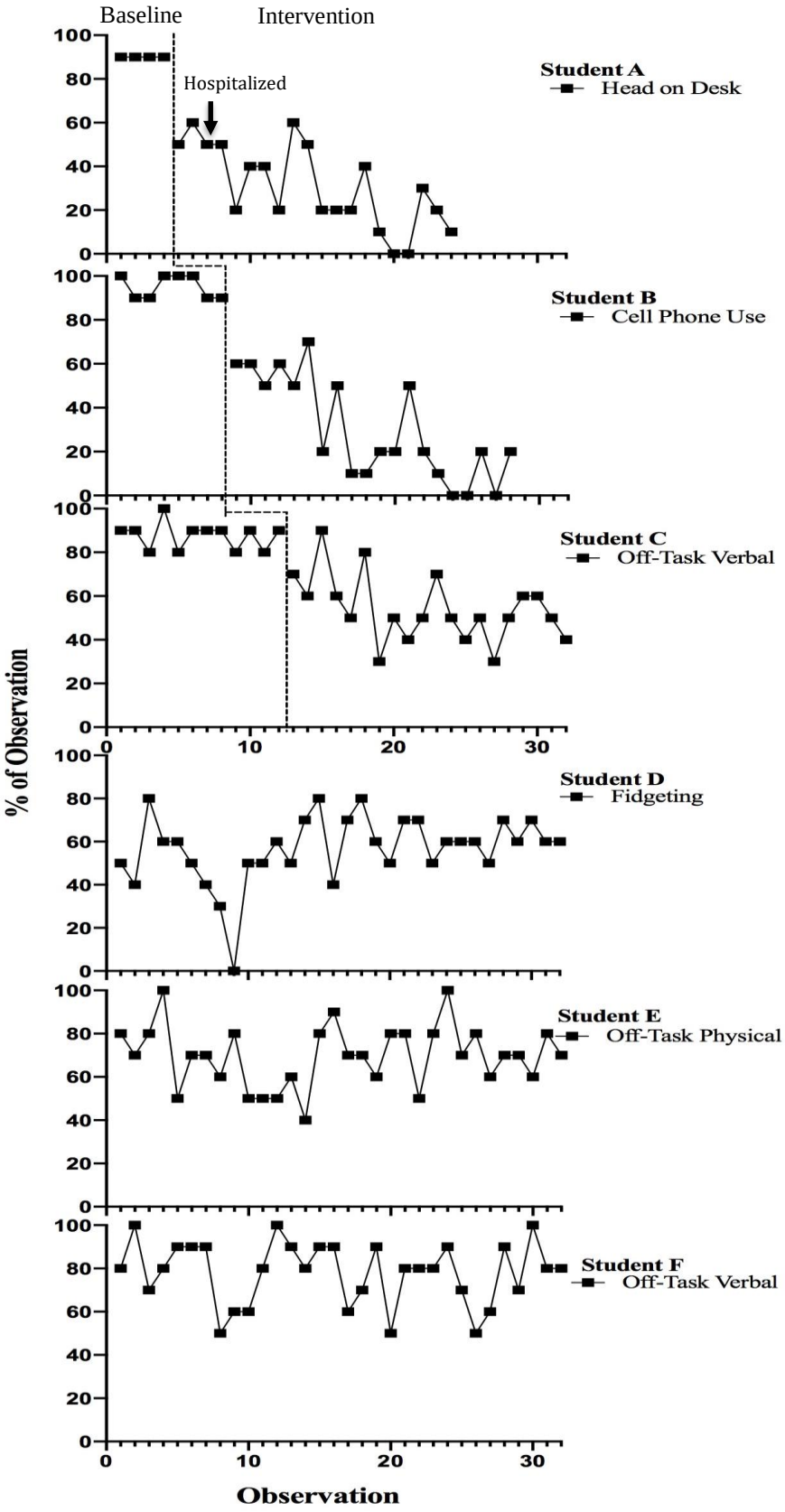


*Figure 2.* Teacher-reported DBR scores for intervention and waitlist control students.

**Research Question 3: Effect of CBITS on Academic Disengagement**

The third research question addressed the functional relationship between CBITS and academic disengagement, as measured by observational recording of the percentage of time the student engaged in off-task behaviors (Shapiro, 1996). It was hypothesized that implementation of CBITS would be associated with an observable decrease in the percentage of time each participant was academically disengaged (i.e., off-task) below baseline levels. Data from each participant are presented individually below.

**Student A.** As shown in the top panel of Figure 3, within-condition visual analysis of Student A's academic disengagement data indicated a stable baseline phase. Disengagement scores during the baseline condition were high, averaging 89.5% (range = 84-94%, median = 90%; 100% of scores fell within the stability envelope). Academic disengagement scores during the intervention condition were variable, and averaged 31.7% (range = 0-81%, median = 23%; 15% of scores fell within the stability envelope). Evaluation of absolute level change within conditions indicated a decrease in academic disengagement during intervention, and no level change during the baseline condition. During the intervention condition, two trends were detected: There was a deteriorating trend in a contra-therapeutic direction during the first eight observations, and an increasing trend in a therapeutic direction the remaining 12 observations. To obtain further information, a split-middle method of trend estimation was also conducted, and indicated there was an increasing trend in a therapeutic direction within the intervention condition.

When CBITS was implemented, between-condition visual analysis of Student A's data indicated an immediate level decrease in the percentage of academic disengagement below baseline levels (e.g., mean scores shifted from 89.5% to 31.7% across adjacent phases). The median, mean, relative, and absolute levels of change were calculated. All level change measures indicated improving scores across conditions. Both median and mean level of change across conditions

indicated an improving trend. An evaluation of absolute and relative level change between conditions indicated a decreasing trend in a therapeutic (improving) direction, which was consistent with the within-condition analysis of trend in the intervention condition. With regards to overlapping data, calculation of the improvement rate difference (IRD) indicated there was -100% non-overlap of academic disengagement scores observed during baseline and intervention. Given the immediate shift in level, presence of an intercept gap between conditions, and decreasing trend in a therapeutic direction, there appears to be sufficient evidence to suggest a basic effect of implementation of CBITS and a decrease in academic disengagement for Student A.

**Student B.** As shown in the second panel of Figure 3, within-condition visual analysis of Student B's academic disengagement data indicated a stable baseline phase. Disengagement scores during the baseline condition were high, averaging 90.1% (range = 84-100%, median = 88.5%; 100% of scores fell within the stability envelope). Academic disengagement scores during the intervention condition were variable, and averaged 28.9% (range = 0-69%, median = 20.5%; 25% of scores fell within the stability envelope). Evaluation of absolute level change within conditions indicated academic disengagement scores were improving during baseline and intervention conditions. A split-middle method of trend estimation was also conducted, and indicated there was a decreasing trend in a therapeutic direction within both baseline and intervention conditions.

When CBITS was implemented, between-condition visual analysis of Student B's data indicated an immediate level decrease in the percentage of academic disengagement below baseline levels (e.g., mean scores shifted from 90.1% to 28.9% across adjacent phases). The median, mean, relative, and absolute levels of change were calculated. All level change measures indicated improving scores across conditions. Both median and mean level of change across conditions indicated an improving trend. An evaluation of absolute and relative level change between conditions indicated a decreasing trend in a therapeutic (improving) direction, which was consistent

with the within-condition analysis of trend in the baseline and intervention conditions. With regards to overlapping data, calculation of the IRD indicated there was -100% non-overlap of academic disengagement scores observed during baseline and intervention. Given the immediate shift in level, presence of an intercept gap between conditions, and decreasing trend in a therapeutic direction, there appears to be sufficient evidence to suggest a basic effect of implementation of CBITS and a decrease in academic disengagement for Student B.

**Student C.** As shown in the third panel of Figure 3, within-condition visual analysis of Student C's academic disengagement data indicated a stable baseline phase. Disengagement scores during the baseline condition were high, averaging 88.1% (range = 78-98%, median = 88.5%; 100% of scores fell within the stability envelope). Academic disengagement scores during the intervention condition were variable, and averaged 49.5% (range = 31-77%, median = 49.5%; 70% of scores fell within the stability envelope). Evaluation of absolute level change within conditions indicated academic disengagement was increasing in a contra-therapeutic direction during the baseline condition, and decreasing during the intervention condition. A split-middle method of trend estimation was also conducted, and indicated there was a decreasing trend in a therapeutic direction within the intervention condition.

When CBITS was implemented, between-condition visual analysis of Student C's data indicated an immediate level decrease in the percentage of academic disengagement below baseline levels (e.g., mean scores shifted from 88.1% to 49.5% across adjacent phases). The median, mean, relative, and absolute levels of change were calculated. All level change measures indicated improving scores across conditions. Both median and mean level of change across conditions indicated an improving trend. An evaluation of absolute and relative level change between conditions indicated a decreasing trend in a therapeutic (improving) direction, which was consistent with the within-condition analysis of trend in the intervention condition. With regards to

overlapping data, calculation of the improvement rate difference (IRD) indicated there was -100% non-overlap of academic disengagement scores observed during baseline and intervention. Given the immediate shift in level, presence of an intercept gap between conditions, and decreasing trend in a therapeutic direction, there appears to be sufficient evidence to suggest a basic effect of implementation of CBITS and a decrease in academic disengagement for Student C.

**Waitlist controls (students D, E, F).** Students D, E, and F did not receive CBITS. As shown in the bottom three panels of Figure 3, Student D's academic disengagement scores were moderately high, averaging 55.3% (range = 5-81%, median = 57%; 66.7% of scores fell within the stability envelope, indicating a variable pattern). Student E's academic disengagement scores were high, averaging 69.8% (range = 33-98%, median = 71%; 75% of scores fell within the stability envelope, indicating a variable pattern). Student F's academic disengagement scores were high averaging 75.5% (range = 34-98%, median = 78.5%; 78.1% of scores fell within the stability envelope, indicating a variable pattern). Evaluation of relative and absolute levels of change did not indicate improvement in disengagement scores for waitlist control students D, E, and F.

**Integration of information.** Given that there were three demonstrations of an effect across different participants at different points in time, there appears to be sufficient evidence to suggest a functional relation between implementation of CBITS and a decrease in academic disengagement. This decelerating effect was evident across all intervention conditions for Students A, B, and C, albeit less so for Student C as his data were highly variable and similar in value to disengagement scores reported for the waitlist control participants. The decelerating effect was not present for waitlist control participants, as academic disengagement values were consistently elevated, albeit with moderate variability for all waitlist participants. When assessing the effect size, the maximum IRD was attained (-100%) for all intervention participants, meaning all intervention phase traumatic stress values fell below baseline levels across all intervention participants.

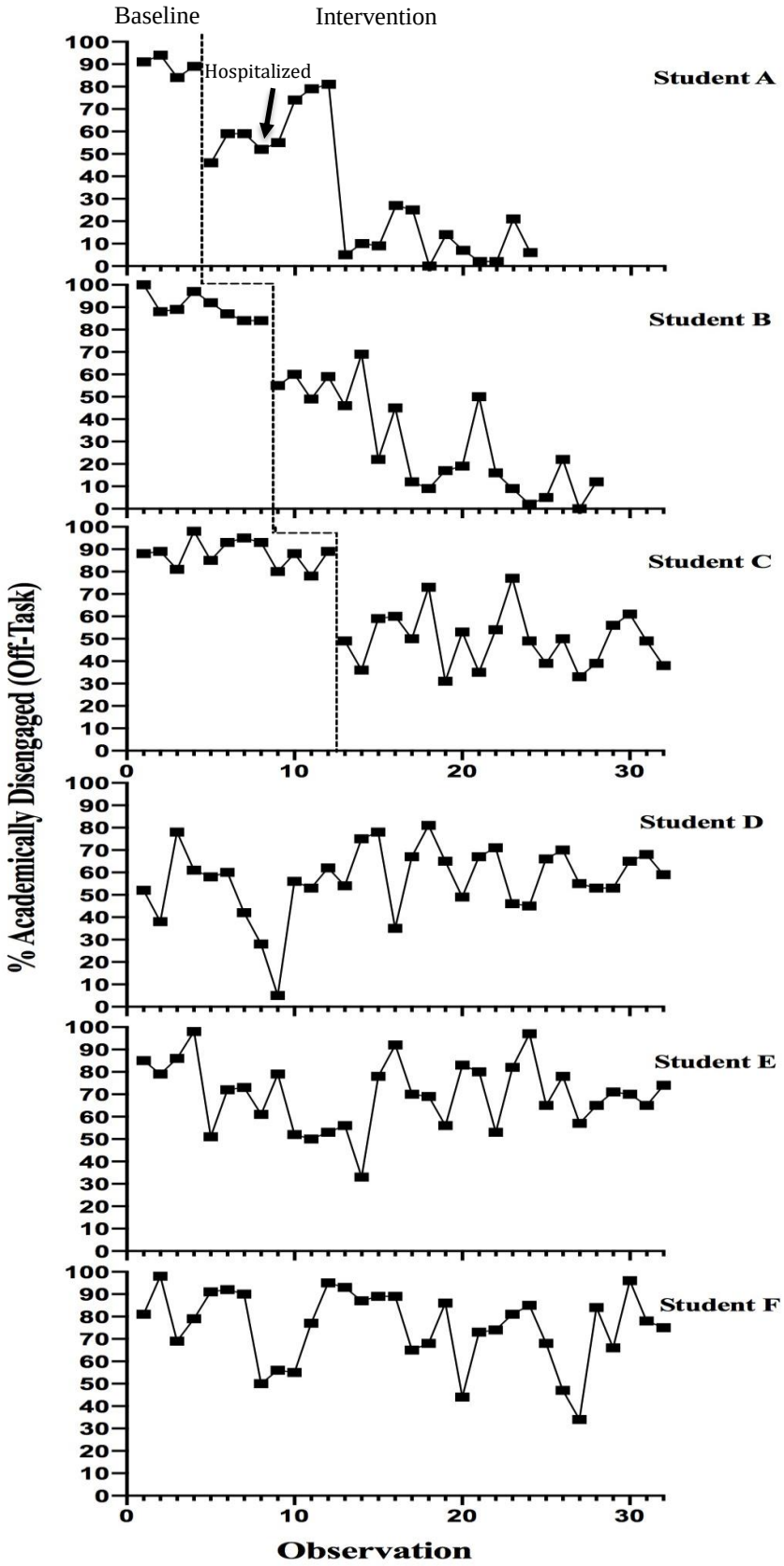


*Figure 3.* Academic disengagement for intervention and waitlist control students.

**Reliability and Fidelity**

Interobserver agreement (IOA) was calculated across six sessions for each student (two baseline and four intervention sessions for students receiving CBITS). Average percentage of agreement ranged between 67-100% for DBR and academic disengagement observational sessions across all six students. Percentage agreement between two raters for DBR and off-task data are presented in Table 3 below for each participant.

Table 3

*Interobserver Agreement*

| Student | # Sessions Assessed | Percentage Agreement (IOA) | |
|---|---|---|---|
| | | DBR | Academic Disengagement |
| A | 6 | 100% | 100% |
| B | 6 | 67% | 67% |
| C | 6 | 83% | 67% |
| D | 6 | 67% | 67% |
| E | 6 | 100% | 83% |
| F | 6 | 83% | 67% |

*Note.* Observers who rated academic disengagement scores within ten percentile points of each other constituted an agreement for the particular observation session.

CBITS treatment fidelity was documented utilizing the CBITS Fidelity Adherence Measure (Jaycox et al., 2004). Two CBITS sessions were recorded for each participant, and a third-party observer rated the interventionist on element coverage, interventionist efficacy, and participation. Results are presented below in Table 4.

Table 4

*CBITS Treatment Fidelity*

| Student | Observed Session | Element Coverage | Interventionist Efficacy | Participation |
|---|---|---|---|---|
| A | 2 | 11 out of 12 | 11 | 7 |
| | 5 | 13 out of 15 | 10 | 8 |
| B | 6 | 11 out of 12 | 12 | 8 |
| | 2 | 12 out of 12 | 12 | 9 |
| C | 7 | 11 out of 12 | 11 | 8 |
| | 4 | 14 out of 15 | 11 | 6 |

*Note.* Interventionist efficacy maximum score is 12; participation maximum score is 9.

**Social Validity**

Intervention students completed the Children's Usage Rating Profile (CURP; Chafouleas, Briesch, Riley-Tillman, & McCoach, 2009) to assess their experience with CBITS. Results are presented in Table 5 below.

Table 5

*Social Validity of CBITS*

| Student | Personal Desirability (max = 28) | | Feasibility (max = 32) | | Understanding (max = 24) | |
|---|---|---|---|---|---|---|
| | Raw Score | % | Raw Score | % | Raw Score | % |
| A | 26 | 93 | 16 | 50 | 20 | 83 |
| B | 20 | 71 | 14 | 44 | 21 | 88 |
| C | 24 | 86 | 15 | 47 | 21 | 88 |

*Note.* Raw CURP score reflects the cumulative score within each subscale. Percentage reflects student's overall reported personal desirability, feasibility, and understanding.

Personal desirability raw scores ranged from 20-26 ($M$ = 23.33, $SD$ = 3.05), with Student A reporting the highest personal desirability (93%) to utilize CBITS, and Student B the lowest (71%). Feasibility raw scores were moderately low for all intervention students, and ranged from 14-16 ($M$ = 15, $SD$ = 1), with Student A reporting the greatest ease of implementing learned strategies (50%), and Student B the least (44%). Understanding raw scores ranged from 20-21 ($M$ = 20.67, $SD$ = 0.58), with Students B and C reporting more confidence in their understanding of the learned skills (88%) than Student A (83%).

# CHAPTER VI: DISCUSSION

The main purpose of this study was to evaluate the impact of CBITS on the academic and social-emotional outcomes of youth in OHC. Three students were randomly assigned to receive the CBITS intervention, and three of the students served as waitlist controls. This study utilized single-case design methodology to address three specific research questions. First, does the implementation of CBITS have an effect on decreasing traumatic stress symptoms among students in OHC? Second, does the implementation of CBITS have an effect on decreasing problematic classroom behaviors among students in OHC? Third, does the implementation of CBITS have an effect on decreasing academic disengagement among students in OHC? In addition, data were gathered to evaluate inter-observer reliability, intervention fidelity, and social validity.

## Traumatic Stress

Overall findings from this study indicate that traumatic stress symptoms among youth in OHC decreased following the implementation of CBITS. One of the most striking findings in the study was youth in OHC reported alarmingly high rates of traumatic stress symptoms during screening and baseline phases. Some of the common symptoms endorsed by youth were "having trouble concentrating," "not feeling close to people around you," and "trying not to think about, talk about, or have feelings about the event." Screening results indicated six out of eight youth experienced an elevated risk of PTSD given their reported traumatic stress symptomology on the Child Posttraumatic Symptom Scale (CPSS; Foa et al., 2011). The findings from the screening data are congruent with findings from other published studies demonstrating high prevalence of traumatic stress and PTSD diagnoses among youth in OHC. For example, in their study assessing foster care alumni, Pecora and colleagues (2009) found that 30% of youth in OHC met diagnostic criteria for PTSD in their lifetime compared to 7.6% of the general population sample. Another study found that even among a sample of traumatized youth, youth specifically in OHC experienced

substantially higher PTSD diagnostic rates, with 18.8% of youth in OHC meeting criteria compared to 8.8% of traumatized youth without a history of OHC (Salazar et al., 2013).

The fact that youth in OHC are experiencing symptoms of traumatic stress and PTSD in such high numbers compared to the general population is particularly concerning for educators. The Self-Trauma Model (Briere, 1992) adopted as a theoretical framework in this study describes that increased traumatic stress disrupts the development of affect regulation skills. Generally, youth may be unable to adequately regulate their emotions, and tend to overreact to negative or stressful events (Jimenez et al., 2016). As a result, youth who have experienced multiple traumatic stressors display internalizing and/or externalizing behaviors in the classroom (NCTSN, 2013). All six students involved in this study exhibited a variety of internalizing/externalizing issues that interfered with their learning. Feedback from the teacher education sessions was surprising as most teachers reported that they were not aware of the student's traumatic background, and generally misconstrued the student's internalizing/externalizing behaviors as something the student should be able to control. Teachers admitted that students' negative behaviors were often met with various forms of discipline (i.e., detentions, suspensions, and being sent out of the classroom) as well as strained relationships between the students and their teachers. This finding closely aligns with Briere's (1992) examination of traumatized youth feeling misunderstood and avoiding certain attachment interactions. While avoidance of an abusive family member at home may be a defense mechanism for some youth, this avoidance response may transfer into the school setting where youth fail to develop relationships with important adults (i.e., teachers) and feel further disengaged and disconnected in the learning environment (Pears et al., 2013). As a result, their academic and social-emotional outcomes may be negatively affected (Romano et al., 2015).

Upon beginning CBITS, all three intervention students reported an immediate decrease in traumatic stress symptomology. This drop in level was most prominent for Students A and C, but

visibly noticeable for Student B as well. The magnitude of this effect was large, as there were no overlapping values between conditions across all intervention students. While Students B and C had a consistent decreasing trend with little variation during intervention, the first three data points in Student A's intervention condition follow an increasing trend. It should be noted that during the first month of intervention, Student A expressed suicidal ideation and was hospitalized at an inpatient psychiatric facility for several days. Once released, her Foster Mom began looking into more restrictive long-term residential options, and this created a significant amount of stress for Student A. As a result, her traumatic stress symptoms increased during this time frame, but decreased at the end of session four, and continued to decrease throughout the remainder of the intervention.

**Mechanisms of change.** The immediate drop in level following the implementation of the intervention may be partially explained by the nature of the session. That is, the first session focused on developing rapport between the student and interventionist, which may inherently make some individuals feel safe, comfortable, and able to discuss their traumatic stressors more openly, thus alleviating some symptoms. One of the key components during this first session was to normalize the discussion surrounding trauma, particularly regarding students' experiences leading to their removal as well as their placement in an out-of-home setting. Consistent with best practices in cognitive behavioral interventions, establishing a therapeutic alliance and providing a safe place that allows for the exploration of the student's traumatic stress may help decrease symptoms (Castonguay et al., 2010).

Establishing a therapeutic alliance seemed to be an important factor in reducing stress symptoms in our study. During baseline conditions, all participants initially reported that they "almost always" did not feel close to people around them throughout the week. Compared to waitlist control participants, students receiving CBITS rated this item more favorably as the

intervention progressed. Most notably, students expressed that they were not aware of any school-based supports that could help them process their thoughts and feelings prior to participating in CBITS. Students felt that CBITS helped them establish important connections (e.g., school social workers, psychologist, counselors, family liaisons) throughout the school that they had not been aware of previously.

Surprisingly, some items on the CPSS had very little variation despite intervention implementation. For instance, students consistently reported psychosomatic issues on items such as "I have trouble falling asleep or staying asleep" and "I have bad dreams or nightmares" throughout baseline and intervention conditions. While CBITS targets a variety of traumatic stress symptoms, a multitude of other factors may contribute to sleep disturbance. Furthermore, it is entirely possible that psychosomatic concerns take longer to address than the scope of this study. In the CBITS manual, Jaycox (2004) describes that sleep issues and health problems are common reactions to trauma, and they take considerably longer to correct.

Other items on the CPSS varied considerably following intervention implementation. Compared to waitlist control participants, students receiving CBITS reported a decrease in avoidant behaviors and maladaptive behavioral reactions throughout the intervention. Self-reported avoidant behaviors improved for all three participants (i.e., "trying to avoid activities, people, or places that remind you of the traumatic event" and "trying not to think about, talk about, or have feelings about the event"). Consistent with Briere's (1992) Self Trauma Model, youth who have experienced trauma may become easily overwhelmed by emotional distress associated with memories of the trauma, and in turn, may rely on avoidance strategies as a means of dissociating. Session five of CBITS specifically addresses avoidance (Jaycox, 2004), and teaches students alternative coping strategies (i.e., thought stopping, distraction, positive imagery, and relaxation).

The decrease in avoidant behavior symptoms was most apparent for Student A, who avoided schoolwork and teacher/peer interactions by internalizing her issues and putting her head down during baseline conditions. Consistent with research describing internalizing issues among youth in OHC (Rebbe et al., 2017), Student A experienced depressive symptoms as a result of her internal representations of herself as unworthy and unacceptable. Given her extensive history in multiple placements, Student A also expressed issues of safety, trust, and lack of control, commonly observed in youth who report frequent residential change (NCTSN, 2015). Student A seemed to benefit the most from having consistent weekly support from a trusted adult as well as learning how to reframe her existing schemas by challenging negative thinking patterns.

Symptoms associated with common school issues experienced by youth in OHC also decreased in severity. For instance, all three students participating in CBITS initially reported that they "feel irritable or have fits of anger" and "have trouble concentrating" either half the time or almost always during baseline conditions. These self-reported symptoms are consistent with extant research that notes youth in OHC may display increased externalizing behavior problems, including hyperactivity, inattention, and aggressive or oppositional behaviors (Jimenez et al., 2016; Zetlin et al., 2012). This decrease in severity was most apparent for Student C, who had an existing diagnosis of Oppositional Defiant Disorder (ODD) and Attention Deficit Hyperactivity Disorder (ADHD). Student C exhibited several externalizing behaviors in class (e.g., yelling, swearing, throwing things, leaving class without permission) and generally responded to most situations with hostility and aggression. Given his history of maltreatment, Student C perceived greater threat and aggression in his interactions with others (Cicchetti & Valentino, 2006) as this had been an existing schema he carried from one placement to another. As a result, he failed to make and maintain secure relationships in school. That is, he was unable to identify a single peer as a friend, and he didn't feel like he had a support network around him. Throughout the intervention, Student C reported

decreased severity in aggression and inattention. In his trauma narrative, he described wanting to change how others perceived him as a "violent and angry kid" by challenging negative thinking patterns and schemas in order to improve his negative behaviors. Student C entered several CBITS sessions in tears and clenched fists, often telling the interventionist "I don't want to be this angry anymore." During the intervention, Student C worked on understanding how his negative thoughts were interconnected with his maladaptive behaviors, and he gradually began to experiment with alternative coping strategies taught by CBITS. He reported that relaxation training allowed him the time and space to calm his body so that he could engage in a more rational thought process when he encountered a stressful situation at school. Overall, it seems that the presence of a therapeutic alliance, weekly processing, and skill-building sessions provided by CBITS helped decrease traumatic stress symptoms among intervention participants.

**Problematic Classroom Behavior**

Results indicated a functional relation between implementation of CBITS and a decrease in problematic classroom behaviors for all three students participating in the intervention. Although CBITS primarily targets the reduction of traumatic stress symptoms (Allison & Ferreira, 2017; Jaycox, 2004), it appears to have an effect on reducing a variety of maladaptive internalizing and externalizing behaviors as well. Prior studies evaluating CBITS have not assessed problematic behaviors, but rather evaluated the impact of CBITS on the reduction of common social-emotional outcomes such as anxiety, depression, and traumatic stress (e.g., Allison & Ferreira, 2017; Goodkind et al., 2010). This is surprising as many educators have cited behavioral problems as the most prominent challenge in educating students in OHC placements (Zetlin et al., 2012). This is the first study, to our knowledge, that has measured classroom behaviors. Even more so, this is the first study to evaluate the effectiveness of CBITS utilizing direct observation of behavior, rather than relying on pre- and post-intervention rating scales as an assessment tool (e.g., Kataoka et al., 2011).

One of the most meaningful findings from this study was that students, despite having the common experience of residing in OHC placements, presented with drastically different problematic behaviors. Students A, B, and D exhibited internalizing behaviors whereas Students C, E, and F had problematic externalizing behaviors. Even among students who exhibited internalizing behaviors, there was a wide variation, with Student A slouching her head on the desk and sleeping, Student B playing with his phone as a coping strategy, and Student D displaying common symptoms of anxiety, such as fidgeting and playing with her hair/skin. These findings support existing literature that highlights differences in trauma symptomology and presentation among youth in OHC placements (Foster et al., 2015).

Common symptoms and/or reactions to trauma may vary from one student to another. This is important to note for educators and other school personnel working with youth in OHC placements, as research suggests teachers frequently perceive youth in OHC as hyperactive, angry, and aggressive (Zetlin et al., 2012). Even in our study, teachers admitted that they had very little trauma training and/or knowledge, particularly surrounding students involved in the foster care system. These teachers reported they often misconstrued externalizing behaviors as purposeful acts of defiance in the classroom, rather than byproducts of unstable circumstances in the lives of youth in OHC. This misperception is highly problematic for two reasons. First, externalizing behaviors are punishable, and an overwhelming amount of research suggests that youth in OHC experience school detentions, suspensions, and expulsions at high rates (e.g., Evans et al., 2017; Scherr, 2007; Sullivan et al., 2010). These disciplinary referrals further reduce the amount of instructional time youth in OHC receive in the classroom (Zetlin et al., 2010) and have a lasting negative impact on the relationships formed between youth and their teachers or peers (Jimenez et al., 2016). Second, because the focus is generally on externalizing behaviors that are distracting to other learners in the class, students in OHC placements that exhibit internalizing behaviors may go unnoticed, and

therefore, unsupported in the classroom. Misunderstanding was addressed through the teacher education sessions in our study, particularly when teachers received psychoeducation surrounding common reactions to trauma that highlighted *both* internalizing and externalizing behaviors exhibited by students who have experienced trauma.

Another noteworthy finding from our study was the extremely elevated level of problematic behaviors exhibited in the classroom. For instance, during baseline conditions, intervention students demonstrated problematic behaviors 80-100% of the class period. Aside from one observational outlier at 0%, waitlist students also experienced elevated levels of problematic behaviors, ranging from 40-100% of the class period the entire duration of the study. Existing literature consistently highlights that internalizing/externalizing behavioral problems interfere with student learning and overall achievement (e.g., Romano et al., 2015; Zima et al., 2000). In our study, all six students either had failing class grades, incomplete assignments, and/or norm-referenced achievement assessments that fell below grade-level standards. Four out of six students were receiving special education and/or 504 Accommodation services. To put it simply, one teacher in the study confidently remarked that "learning is just not happening." These findings provide much-needed direction for future educational practices regarding youth in OHC, and more broadly, youth who have experienced trauma. Similar with Maslow's hierarchy of physiological needs (1943), if social-emotional and behavioral outcomes are not prioritized and addressed first, students' academic outcomes will continue to suffer.

**Mechanisms of change**. Exploring the mechanisms that underlie behavioral change across three seemingly different behavioral problems (i.e., Student A = head on desk, Student B = cell phone use, Student C = off-task verbal) is challenging, particularly because some of these behaviors were not explicitly addressed in the manualized sessions of CBITS. It is entirely possible that other confounding factors contributed to the behavioral change. For instance, certain intra- and

interpersonal factors may have influenced the level of processing, discussion, and motivation/commitment to behavioral change throughout individualized sessions. Some students were more receptive to bringing up and discussing their problematic concerns without any prompting. Student B, for example, asked the interventionist during session two (common reactions to trauma) if one sign of trauma is being obsessed with his phone. During the course of the intervention, he and the interventionist engaged in several discussions where Student B reported that he disassociates from the trauma that he has endured in the past as well as the "chaos" in his placement by "numbing" or "drowning out" his surroundings through the use of technology. At school, he immerses himself in his phone and at home he plays video games to escape reality. Although phone usage was not explicitly targeted or addressed in the manualized CBITS sessions, because of the student's willingness to discuss his own concerns, it was brought up repeatedly. Students' willingness to process and participate in discussion throughout the intervention could potentially contribute to behavioral change.

Similarly, students' readiness to participate in discussion can also impact behavioral change. For instance, Student C was reserved and initially resistant to begin intervention. It took considerably longer than the other participants to engage him in discussion surrounding his trauma and experiences in OHC. Student C had the least amount of residential placements compared to the rest of the study participants. At the time of intervention, he was currently residing in his second placement overall and his biological Mom had just given up rights due to being incarcerated, so foster Mom was in the process of filing for legal adoption of Student C as well as his sister. Because he was relatively new to foster care and appeared to be reacting/externalizing, Student C may not have been as ready to process and/or commit to behavioral change as Students A and B.

Another possible mechanism of change may be through the establishment of therapeutic rapport. That is, a strong therapeutic relationship may serve as a moderator of change between

CBITS and improved behavioral outcomes. As mentioned previously, a therapeutic alliance provides the student with a safe, trusted relationship that allows for the exploration of thoughts, feelings, and behaviors, which may contribute to behavioral improvement (Castonguay et al., 2010). In fact, a large literature base suggests that a strong therapeutic relationship is a key predictor of engagement in intervention tasks and positive treatment outcomes among traumatized youth (e.g., Shirk & Karver, 2003; Zorzella, Muller, & Cribbie, 2015). In their study of Trauma Focused Cognitive Behavioral Therapy (TF-CBT), Ormaugh and colleagues (2013) found a strong association between strong therapeutic alliance and traumatized youth's active engagement in TF-CBT tasks, which translated into symptom reduction and positive behavioral changes. The building and maintenance of a therapeutic alliance between the interventionist and student participants may have contributed to the improvement in problematic behaviors.

Building a strong therapeutic alliance was important to do for all student participants, but particularly important for Student A, who perceived others as untrustworthy given her experiences in 11 different OHC placements. The interventionist served as a constant source of support for Student A, who regularly checked-in with the interventionist even outside of sessions. It is possible that these check-ins may bias results as Students B and C did not check-in as frequently, however one of the foundational goals of CBITS is to create networks of support that students can access throughout the school. Research consistently notes that youth who have experienced maltreatment within caregiving relationships as well as increased residential moves often struggle to develop positive relationships (Cloitre et al., 2004). However, certain factors such as symptomatology and gender contribute to the development of alliance. In a study analyzing the relationships between therapeutic alliance and internalizing/externalizing symptoms in TF-CBT, Zorzella and colleagues (2015), found that females and youth with internalizing behaviors were more likely to develop a strong alliance with the interventionist. Additionally, a strong therapeutic alliance was found to be a

significant predictor of improvement in internalizing symptoms (Zorzella et al., 2015). It is possible that these factors and the relationship developed between Student A and the interventionist contributed to the reduction of her maladaptive classroom behavior.

Although it is difficult to generalize findings given the methodology used in this study as well as our small participant sample, it appears that CBITS may have a more consistent effect on reducing internalizing behaviors, such as withdrawal and disassociation (i.e., sleeping/head on desk and playing on the phone). Teachers' observations of Students A and B indicated that maladaptive behaviors during intervention conditions were reduced compared to baseline conditions, with no indication of problematic behaviors returning to the same elevated levels observed prior to the start of intervention. However, this effect was not as strong for the externalizing behaviors exhibited by Student C. Although between-condition analysis indicated a decelerating trend in a therapeutic direction, Student C's data were variable throughout the intervention condition, and several observations overlapped between conditions. One possible explanation is that externalizing behaviors tend to fluctuate more so than internalizing problems, as demonstrated by other research evaluating the regulation of emotional problems among youth (Bowie, 2010; Kim & Deater-Deckard, 2010). Another explanation may be that manualized sessions in CBITS heavily emphasize the cognitive components of changing and challenging maladaptive thinking patterns that are linked to common internalizing issues (i.e., feeling anxious or depressed) rather than patterns associated with externalizing issues (i.e., feeling angry or vengeful). Regardless, because of our inability to generalize, it is important to note that future research should evaluate whether there are differences in the efficacy of CBITS on the reduction of internalizing versus externalizing behaviors with much larger samples than ours.

**Academic Disengagement**

Overall findings indicate academic disengagement decreased for all three intervention students involved in CBITS. Given that intervention participants also exhibited a significant decrease in their problematic classroom behaviors, this finding is not surprising as most problematic behaviors contributed to high levels of academic disengagement during class. As such, reducing a targeted behavioral problem, particularly when the targeted problem occurs frequently, may help reduce off-task behaviors.

Compared to DBR data summarizing percentage of time the student engaged in their specified problematic classroom behavior, academic disengagement data were more variable across all six participants. This may be because off-task behavior included not only the targeted problem behavior, but also a range of other behaviors that contributed to a student being off-task. As such, it is possible that even when the targeted problem behavior was controlled, other competing off-task behaviors contributed to the fluctuation in academic disengagement. This appeared to hold true for Student C (problematic behavior was verbal off-task) who had many additional behaviors that contributed to his overall academic disengagement, including wandering the classroom, throwing things, hitting peers, and leaving the room. However, the magnitude of the effect was large nonetheless, as there were no overlapping values between conditions across all intervention students

While Students B and C experienced a steady decrease in disengagement over the course of CBITS, Student A's scores increased the first few weeks of intervention. As previously mentioned, during this time, Student A experienced transitional issues at home. She had expressed suicidal ideation and was hospitalized at an inpatient psychiatric facility for several days. Once released, her Foster Mom began looking into more restrictive long-term residential options, and this created a significant amount of stress for Student A. As a result, she disengaged from school and displayed several off-task behaviors (i.e., head on desk, gazing off in no particular direction, and doodling in

her notebook). Student's A's academic disengagement decreased significantly at the end of session four, after a plan was put in place to have her remain at the high school.

**Mechanisms of change**. Some of the mechanisms of change responsible for improving traumatic stress symptoms may also improve academic disengagement. For instance, youth in OHC generally report feeling disconnected from school, teachers, peers, and disengaged in the learning process overall (Romano et al., 2015). CBITS helps students to establish a therapeutic alliance alongside interconnected systems of support throughout the school, which may help decrease disengagement as students may continue making positive attachments with teachers and peers in their classroom. Positive relationships inside the school and classroom have been demonstrated to improve overall engagement across high school students in particular (e.g., Nguyen, Cannata, & Miller, 2016). Another mechanism of change in CBITS is targeting trauma by teaching students to utilize alternative coping strategies. Students who traditionally disassociate during class activities because they are distracted by the trauma and instability characterizing their home life may experience decreased disengagement once their traumatic stress symptoms are controlled (i.e., by challenging maladaptive thinking patterns and schemas, processing their trauma narrative rather than avoiding it, and learning new coping mechanisms to apply to the classroom setting). As a result, CBITS may work to reduce classroom disengagement by targeting trauma at its source.

As described in the above example with Student A, it is possible that other confounding variables may have influenced students' levels of engagement. For instance, instructional factors such as how the student interacts with the teacher, other peers, and with the content influence the student's level of engagement and disengagement on a daily basis (Nguyen et al., 2016). As an example, some English classes encouraged more class dialogue and discussion, which were met with increased levels of engagement across most students, compared to classes that incorporated large chunks of individual working time where students had more opportunity to disengage. A

teacher's relationship with his/her student may also impact the level of student engagement. Students who have strong positive, relationships with their teacher and believe that their teacher cares about them tend to have higher engagement (Cooper, 2014). It is also important to note that student engagement is not constant (Nguyen et al., 2016); it can change from moment to moment depending on the context of the situation and a multitude of influential variables above and beyond the student's participation in an intervention. Future research should evaluate potentially confounding variables that may influence the relationship between CBITS and decreased disengagement.

**Reliability and Fidelity**

Interobserver agreement (IOA) was assessed on six randomly selected sessions for each participant, utilizing DBR and academic disengagement measures. Percentage agreement varied, and ranged from 67-100% of sessions across both DBR and disengagement measures. This finding suggests that teachers were observing the occurrence of behaviors fairly accurately and consistently. However, some teachers reported difficulty in conducting IOA checks while simultaneously having to conduct regular classroom tasks. IOA may have been underestimated, particularly when reporting academic disengagement data, as co-teachers noted how difficult it was to have two teachers observe one student's behavior while simultaneously trying to manage a class of 30 students. These teachers noted that they observed behavior during class down-time, such as during silent reading or when students were asked to work independently to complete a worksheet/assignment.

Given the logistical difficulty IOA checks created for teachers, future research/practice should consider introducing an outside observer to assess behavior. However, one of the main limitations in observational studies is the impact the observer may potentially have on the subject's behavior (Masling & Stern, 1969). In our study, having the teachers directly observe behavior rather than an outside observer allowed for a more naturalistic occurrence of behaviors. This also limited

observer expectancy bias, particularly if the interventionist were to observe behaviors. In the future, considerations should be taken to determine whether having a third-party observer would reduce teacher burden and increase IOA.

The interventionist's adherence to the core CBITS elements was measured by a third party observer. Overall, the majority of elements were covered in each session across the three student participants. No items were rated with a "0" not covered at all. One area in which the interventionist received the lowest rating was covering homework review, as she frequently made a cursory reference to the homework and offered a quick review, rather than a thorough integration of the homework assignment into the larger context of the therapeutic session. It should be noted that two participants consistently did not complete the weekly homework assignment; however, efforts were made to allow additional time at the beginning of the session to complete and discuss the worksheet. Interventionist efficacy was high and ranged from 10 to 12 (maximum score 12), which suggests that the interventionist effectively summarized session materials, conveyed empathy, and worked within a cognitive-behavioral framework. Checkpoints throughout the manualized sessions ensured that the interventionist covered each element and integrated material. Participation scores varied from 6 to 9 (maximum score 9) across participants. Participation scores reflected the observer's rating of the student's motivation, level of comprehension, and participation. It is possible that these scores were influenced by multiple confounding factors (e.g., student's mood that day) that the interventionist had little control over.

**Social Validity of CBITS**

In order to gauge the social validity of CBITS, following the conclusion of CBITS sessions, intervention students completed the Children's Usage Rating Profile (CURP; Briesch & Chafouleas, 2009; Chafouleas, Briesch, Riley-Tillman, & McCoach, 2009) to assess personal desirability, feasibility, and understanding. All three students rated a high level of understanding of program

materials. It appears that CBITS content and strategies were relatively easy to comprehend for high school students. This may not be the case with elementary and middle school students, and modifications may need to be made in order to promote understanding of intervention materials. All three students also reported high levels of personal desirability, indicating that they personally liked the intervention and would be willing to participate in the therapeutic sessions again. This was a positive finding as it suggested students were engaged in CBITS and found the experience likeable. Feasibility scores were moderately low as students indicated that the intervention was somewhat laborious, time-consuming, and/or intrusive. There are several potential explanations as to why feasibility scores were lower than student-rated personal desirability and understanding. Although sessions only occurred once a week, some students may have had competing responsibilities (i.e., homework, after-school sports, social commitments) that potentially interfered with the weekly hour long session. Additionally, sessions did require a certain level of cognitive and emotional investment due to the information being learned and processed. As such, students may have reported feeling "drained" as intervention was both time-consuming and potentially laborious or intrusive, based on the sensitivity and emotional commitment of the discussions. To our knowledge, this is the first student-based rating of the social validity of CBITS. Future research and practice efforts should gauge students' understanding, willingness, and feasibility.

**Limitations and Future Directions**

It is important to consider several limitations and challenges in implementing this study in order to guide future research and practice. This section discusses methodological limitations of the study. Additionally, Jaycox and colleagues (2004) note several logistical challenges related to implementing CBITS in a public school setting. The researcher in this study navigated around several logistical challenges/limitations involving (1) training, (2) scheduling, and (3) program delivery.

**Methodological.** One notable limitation is the small sample size utilized in this study. A small sample of students makes it difficult to generalize results to the larger OHC population. Ideally, a larger sample size of youth in OHC across several geographical regions would be preferable in terms of power and generalizability. However, the focus of single-case research design is on internal validity rather than establishing external validity. As such, further replications of this design may be warranted in order to demonstrate similar effects across different samples of the OHC population, and further increase confidence in experimental control (Kratochwill & Levin, 2009). In addition, further research should utilize group-based methodology to evaluate the efficacy of CBITS on traumatic stress, classroom behaviors, and academic disengagement among youth in OHC. Future research (both single-case and group-design) should address questions uncovered by this study, including whether CBITS is differentially effective in improving internalizing versus externalizing behaviors, whether certain factors (i.e., symptomatology, gender, therapeutic alliance) moderate the association between CBITS and improved behaviors, and whether there are lasting effects in improved symptoms and behaviors at follow-up. Additionally, given that therapeutic alliance appeared to play a large role in the impact of CBITS on students' behaviors, traumatic stress, and disengagement, future research designs can implement a control condition to account for differential effects on the outcomes variables as a result of therapeutic alliance.

Another methodological limitation in our study concerns the way in which behavior was measured. I used partial-interval recording to assess academic disengagement (off-task behavior), which tends to overestimate the actual occurrence of the behavior (Hintze et al., 2002). Any off-task occurrence which happened in the span of a 15-second interval was recorded. As such, it is entirely possible that a student in our study could have engaged in class material for 14 seconds and was off-task for one second, in which case, the respective interval would be recorded as "off-task" even though the majority of the time spent was on-task. Despite this limitation, this assessment method

was chosen a priori because partial-interval recording is generally utilized to measure behaviors that are expected to decrease as a result of intervention efforts (Hintze et al., 2002). In general, timed interval recording was chosen over other observational data collection methods such as frequency, duration, and latency recording, as I wanted an approximation of off-task behavior, rather than an exact number of occurrences or time spent engaged in off-task behavior. Additionally, because off-task disengagement may consist of several different behaviors that occur at moderate to high rates (Hintze et al., 2002), interval recording was the most appropriate option. It should be noted that although off-task behavior decreased in this study, it is not known if on-task behavior increased as a result of CBITS implementation.

One additional limitation concerning observation was that student's problematic behaviors and academic disengagement were only observed in English class. Ideally, we would want to observe behaviors across a variety of settings, and in this case, across several different classes. English may be the only class in which the student disengages or demonstrates a high frequency of problematic behaviors. Alternatively, English may the only class in which the student enjoys and therefore engages. Unfortunately, because of staff availability and time limitations, I was only able to measure behaviors occurring in English class. As in most studies occurring in educational settings, there were multiple potentially confounding factors that could not be controlled for throughout the study, including (but not limited to) consistent use of teacher redirection for negative behaviors, type of lesson being taught, the student's relationship with his/her English teacher(s), fire alarm being pulled during class, etc. These factors may have influenced a student's level of engagement in class as well as the percentage of time the student spent engaging in problematic classroom behaviors. Further research should analyze confounding variables that may contribute to behavioral change.

Behavior was also measured by classroom teachers. This is a limitation in two ways. First, classroom teachers had previously signed a consent form in which they were made aware that the purpose of the study was to determine whether a trauma-based intervention may help improve students' academic and behavioral outcomes in school. Although teachers were not aware of which students were actively receiving CBITS and which students were waitlist participants, it is possible that observational data may have been biased as a result of teachers' background knowledge surrounding the purpose of the study. Second, as mentioned previously, there were notable logistical difficulties in having teachers observe and record data. Although each English classroom had two teachers, it may have been difficult for one teacher to manage an entire classroom while the other observed/recorded behavior without distraction. Future research and practice should utilize a third party to observe and record behavioral data.

**Training.** CBITS requires training school personnel in delivering trauma-informed services, which may be time-intensive and financially burdensome for some schools. School psychologists may be the best equipped position in the school to facilitate the implementation of trauma-informed practices like CBITS. School psychologists can promote staff awareness regarding the impact of trauma, work with school administrators to create a safe and supportive environment, utilize trauma-informed assessment practices, and can provide evidence-based mental health interventions (Diamanduros, Tysinger, & Tysinger, 2018). Unfortunately, school psychologists spend the majority of their working role evaluating students for special education eligibility purposes, thereby leaving little time to implement interventions (Splett et al., 2013). Although the interventionist had already been trained and certified in CBITS implementation prior to the beginning of this study, a large portion of time (approximately five hours a week) was dedicated to the planning, organization, and facilitation of intervention. Future practice should consider the time-intensive nature of CBITS within their school system.

Adequate training in evidence-based, trauma-informed practices is necessary, but it may be time-consuming and not financially feasible for some school districts. In an attempt to facilitate more rapid dissemination of evidence-based practice and training tools necessary to implement such practices, the makers of CBITS offer a web-based platform that provides assessment/data collection materials, intervention implementation strategies, and training modules. There has been a recent increase in web-based training for providing cognitive-behavioral therapy, and these online platforms have been demonstrated to be as effective as in-person training in improving mental health professionals' knowledge and skills (DeRosier et al., 2011; Vona et al., 2014). Website platforms may be a cost-efficient way to increase training in evidence-based interventions through repeated exposure to course material, access to supported resources, and online facilitation support (DeRosier et al., 2011). In their study evaluating the use of the CBITS website, Vona and colleagues (2014) found high levels of website engagement overall, with the training section getting the most usage. These findings may help address some of the challenges and limitations mentioned before. Future research should continue evaluating web-based platforms as a method of training mental health practitioners in implementing evidence-based practices.

In addition to training the mental health interventionist, it took a considerable amount of time and resources to train teachers in data collection. Teacher training sessions spanned the course of two weeks, and included several opportunities to practice and receive feedback. Training took place during teachers' sole prep period, which was not ideal, as it took away from teachers' planning time. One limitation that was discussed amongst staff helping out with program delivery and data collection was the sustainability of CBITS following the closure of this study. That is, could the program be delivered in the same setting without the interventionist? In order to make future intervention efforts possible as well as to monitor fidelity of this study's implementation, one of the school's social workers was also trained in CBITS delivery. However, it should be noted that

some schools may not have access to more than one mental health practitioner, and this may be a limitation.

CBITS also includes a parent training portion where family members receive psychoeducation and trauma-informed strategies to transfer to the home setting. Intervening with parents can improve parental coping skills, parenting skills, and overall family functioning (Santiago et al., 2014). Parental involvement in treatment for trauma specifically has been demonstrated to be a key factor of evidence-based care (Cohen et al., 2010). In their study evaluating the family component of CBITS, Santiago and colleagues (2014) examined outcomes between students whose families participated in CBITS and those who did not. Results indicated families who participated showed significant improvements in attitudes toward mental health and school involvement, and reductions in inconsistent discipline (Santiago et al., 2014). The family component appeared to be most beneficial for students with high PTSD symptom severity and students who disengaged/disassociated as a coping mechanism. A follow-up study found that parents reported a high level of satisfaction with the family component, and noted that it was beneficial, culturally relevant, and that they would recommend it to others (Santiago et al., 2016). These findings indicate the importance of family engagement as a contribution to treatment effectiveness. Unfortunately, only two out of six students' families participated in the family component of CBITS in our study. It is possible that the timing of the intervention (Fall versus Spring) may have impacted the number of families participating, as families became more familiar with the school in the Spring semester. Further research and practice should strive to engage families in CBITS training in order to evaluate the impact family engagement has on variables included in our study.

**Scheduling.** Implementing CBITS in the school setting reduces common barriers to treatment experienced by youth in OHC, such as relying on parents/family members to schedule

appointments in the community, transportation issues, and follow-through (Jaycox, 2004). However, there were several difficulties in scheduling CBITS sessions in this study. CBITS is intended to be delivered during school programming time, which may not be feasible for some schools and/or students. In our study, there was no scheduled intervention period for students in the school. I navigated around this challenge by offering CBITS during the student's study hall period or after-school to minimize loss of instructional time. Two students participated during their study halls, and one stayed after-school once a week. This study implemented CBITS on an individual basis, however scheduling group-based CBITS may be more difficult at the high school level as you would need to compete with school-based activities, students' jobs, after-school clubs, sports teams, and family-related responsibilities. Future studies implementing CBITS need to consider scheduling difficulties, and may need to be flexible in order to accommodate students, families, and educators.

In our study, students who missed a session had to schedule a make-up session with the interventionist at the earliest convenience to both parties. Given the interventionist's on-site location at the school as well as individualized session delivery, this was not an issue. However, this may serve as a limitation in other sites, and particularly when delivering group-based CBITS. Given the small sample size in our study, the interventionist was committed to control for attrition. In a single-case design, attrition can occur when (1) an individual does not complete all required conditions of a study, or (2) the individual does not have adequate data points within a phase (i.e., did not complete all sessions of CBITS; Kratochwill et al., 2010). Attrition may be particularly concerning if participant dropout or incompletion leads to insufficient data such that level, trend, variability and related statistical properties are unable to be examined (Kratochwill et al., 2010). All treatment students completed every session of CBITS in our study. This is consistent with other studies that have found higher completion rates of school-based (CBITS) versus community-based mental health treatments (e.g., Allison & Ferreira, 2017; Jaycox et al., 2010). Our findings provide further

support that school-based service delivery may be particularly helpful for students in OHC who experience increased mobility and transition.

**Program delivery.** Another limitation in our study was providing CBITS on an individual basis rather than delivering group-based intervention. While one-to-one programming allowed us to utilize single-case design methodology and provide intervention in a highly individualized manner targeting the student's specific needs, there are several shortcomings. Group-based therapy can provide students with opportunities to process with others who have had similar experiences, and normalize their feelings, thoughts, and circumstances (Murphy et al., 2017). As such, students in our study unfortunately did not have access to group-based social dynamics that universalize the experience of placement in out-of-home care. However, individual programming allowed students to talk at length about their personal experiences, build a therapeutic relationship with the interventionist, and fully integrate learned strategies with guided assistance. Future research should evaluate the efficacy of individual versus group-based CBITS intervention delivery with the OHC population.

Finally, this study did not evaluate treatment outcomes following the conclusion of intervention. Ideally, outcomes should be monitored to determine whether there are lasting effects at specified intervals (e.g., 1-month post-treatment, 6-months post-treatment). Future research should determine whether there is a continuation of positive results for students participating in CBITS. Additionally, although CBITS targets the reduction of traumatic stress symptoms utilizing explicit skill instruction within the cognitive-behavioral framework, it also creates an interconnected network of support within the school system for the student as a byproduct. Future research and practice should evaluate whether students feel more engaged/supported within the school environment both during and following the conclusion of CBITS. Although several limitations were noted, overall findings from this study indicate that youth in OHC exhibited decreased traumatic

stress symptoms, problematic classroom behaviors, and academic disengagement when they participated in 10-week sessions of CBITS.

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APPENDIX A: Institutional Review Board Exemption Notification

UNIVERSITY of WISCONSIN
UWMILWAUKEE

Department of University Safety & Assurances

**Melody Harries**
*IRB Administrator*
*Institutional Review Board*
Engelmann 270
P. O. Box 413
Milwaukee, WI 53201-0413
(414) 229-3182 *phone*
(414) 229-6729 *fax*

http://www.irb.uwm.edu
harries@uwm.edu

**New Study - Notice of IRB Exempt Status**

**Date:** April 20, 2017

**To:** Kyongboon Kwon, PhD
**Dept:** Educational Psychology

**CC:** Anna Benton

**IRB#:** 17.295
**Title:** Targeting Trauma for School Success: Implementing an Evidence-Based Intervention with Students in Out-of-Home Placements

After review of your research protocol by the University of Wisconsin – Milwaukee Institutional Review Board, your protocol has been granted Exempt Status under Category 1 as governed by 45 CFR 46.101(b).

This protocol has been approved as exempt for three years and IRB approval will expire on April 19, 2020. If you plan to continue any research related activities (e.g., enrollment of subjects, study interventions, data analysis, etc.) past the date of IRB expiration, please respond to the IRB's status request that will be sent by email approximately two weeks before the expiration date. If the study is closed or completed before the IRB expiration date, you may notify the IRB by sending an email to irbinfo@uwm.edu with the study number and the status, so we can keep our study records accurate.

Any proposed changes to the protocol must be reviewed by the IRB before implementation, unless the change is specifically necessary to eliminate apparent immediate hazards to the subjects. The principal investigator is responsible for adhering to the policies and guidelines set forth by the UWM IRB, maintaining proper documentation of study records and promptly reporting to the IRB any adverse events which require reporting. The principal investigator is also responsible for ensuring that all study staff receive appropriate training in the ethical guidelines of conducting human subjects research.

As Principal Investigator, it is also your responsibility to adhere to UWM and UW System Policies, and any applicable state and federal laws governing activities which are independent of IRB review/approval (e.g., FERPA, Radiation Safety, UWM Data Security, UW System policy on Prizes, Awards and Gifts, state gambling laws, etc.). When conducting research at institutions outside of UWM, be sure to obtain permission and/or approval as required by their policies.

Contact the IRB office if you have any further questions. Thank you for your cooperation, and best wishes for a successful project.

Respectfully,

Melody Harries
IRB Administrator

APPENDIX B: Recruitment Flyer

APPENDIX C: Child Posttraumatic Symptom Scale (CPSS)

Below is a list of problems that kids sometimes have after experiencing an upsetting event. Read each one carefully and circle the number (0-3) that best describes how often that problem has bothered you IN THE LAST WEEK.

| 0 | 1 | 2 | 3 |
|---|---|---|---|
| Not at all or only one time | Once a week or less/ once in a while | 2-4 times a week/ half the time | 5 or more times a week/ almost always |

| | | | | | |
|---|---|---|---|---|---|
| 1. | 0 | 1 | 2 | 3 | Having upsetting thoughts or images about the event that came into your head when you didn't want them to |
| 2. | 0 | 1 | 2 | 3 | Having bad dreams or nightmares |
| 3. | 0 | 1 | 2 | 3 | Acting or feeling as if the event was happening again (hearing something or seeing a picture about it and feeling as if I am there again) |
| 4. | 0 | 1 | 2 | 3 | Feeling upset when you think about it or hear about the event (for example, feeling scared, angry, sad, guilty, etc) |
| 5. | 0 | 1 | 2 | 3 | Having feelings in your body when you think about or hear about the event (for example, breaking out into a sweat, heart beating fast) |
| 6. | 0 | 1 | 2 | 3 | Trying not to think about, talk about, or have feelings about the event |
| 7. | 0 | 1 | 2 | 3 | Trying to avoid activities, people, or places that remind you of the traumatic event |
| 8. | 0 | 1 | 2 | 3 | Not being able to remember an important part of the upsetting event |
| 9. | 0 | 1 | 2 | 3 | Having much less interest or doing things you used to do |
| 10. | 0 | 1 | 2 | 3 | Not feeling close to people around you |
| 11. | 0 | 1 | 2 | 3 | Not being able to have strong feelings (for example, being unable to cry or unable to feel happy) |
| 12. | 0 | 1 | 2 | 3 | Feeling as if your future plans or hopes will not come true (for example, you will not have a job or getting married or having kids) |
| 13. | 0 | 1 | 2 | 3 | Having trouble falling or staying asleep |
| 14. | 0 | 1 | 2 | 3 | Feeling irritable or having fits of anger |
| 15. | 0 | 1 | 2 | 3 | Having trouble concentrating (for example, losing track of a story on the television, forgetting what you read, not paying attention in class) |
| 16. | 0 | 1 | 2 | 3 | Being overly careful (for example, checking to see who is around you and what is around you) |
| 17. | 0 | 1 | 2 | 3 | Being jumpy or easily startled (for example, when someone walks up behind you) |

APPENDIX D: Behavior Assessment System for Children (BASC-3:BESS): Sample Items/Scores

## Behavioral and Emotional Risk Index

| Raw Score | *T* Score | Percentile | Classification |
|---|---|---|---|
| 44 | 70 | 95 | Elevated Risk |

Classifications Normal Risk: 0-60 Elevated Risk: 61-70 Extremely Elevated Risk: 71 and higher

## Item Responses

**Behavioral and Emotional Risk Index**

1. I have trouble sitting still. (Sometimes)
2. My teacher is proud of me. (Sometimes)
3. My parents trust me. (Often)
4. I have trouble paying attention to the teacher. (Sometimes)
5. I want to do better, but I can't. (Often)
6. Others have respect for me. (Sometimes)
7. People tell me to slow down. (Never)
8. I am lonely. (Sometimes)
9. My school feels good to me. (Never)
10. I am liked by others. (Sometimes)
11. I worry but I don't know why. (Often)
12. I talk while other people are talking. (Never)
13. I feel like my life is getting worse and worse. (Sometimes)
14. My parents are proud of me. (Sometimes)
15. I get along with my teacher. (Often)
16. I get blamed for things I can't help. (Sometimes)
17. I feel safe at school. (Sometimes)
18. I forget to do things. (Often)
19. I'm happy with who I am. (Sometimes)
20. I get into trouble for not paying attention. (Sometimes)
21. Even when I try hard, I fail. (Often)
22. My parents listen to what I say. (Sometimes)
23. I feel out of place around people. (Often)
24. I have trouble controlling my thoughts. (Sometimes)
25. I am good at making decisions. (Sometimes)
26. I worry about what is going to happen. (Often)
27. No one understands me. (Often)
28. My parents like to be with me. (Sometimes)

APPENDIX E: Demographic Questionnaire

Please take some time to read through these questions and answer them as best as you can.

1) What is your relationship to the student? _____

2) How old is the student? _____

3) What grade is the student in? _____

4) Is the student currently receiving or being evaluated for Special Education services? Y / N

5) Who does the student live with? _____

6) Please circle the type of placement the student is currently residing in:

- Foster family home
- Foster home of relative(s)
- Group home
- Emergency shelter
- Residential facility
- Child care institution
- Pre-adoptive home

7) How long has the student been in his/her current placement? _____

8) Where was the last place the student lived? _____

9) Would you be able to accurately estimate the TOTAL number of placements the student has experienced? Y / N

If you circled "yes," please indicate the total number of placements:

_____ 1-3 placements

_____ 4-6 placements

_____ 7-9 placements

_____ 10 + placements

10) Are you interested in participating in an informational session for parents/caregivers about the intervention (CBITS) that the student is receiving? Y / N

If you circled "yes," please indicate the best way to reach you:

(Include phone # and/or email): _____

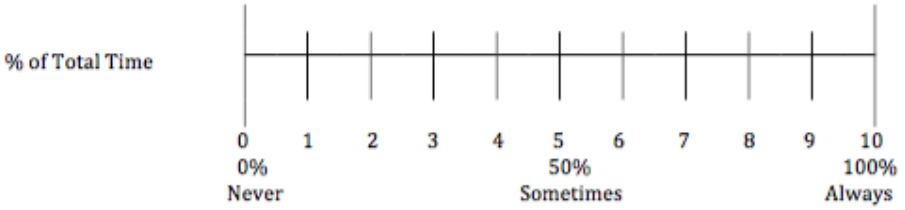
APPENDIX F: Direct Behavior Rating (DBR) Scale

## Direct Behavior Rating (DBR) Form – Fill-in Behaviors

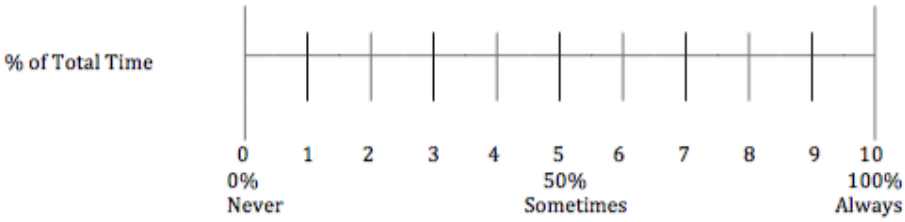
| Date:<br>M T W Th F | Student:<br>Rater: | Activity Description: |
|---|---|---|
| Observation Time:<br>Start:_____<br>End: _____<br>☐ Check if no observation today | Behavior Descriptions: | |

Directions: Place a mark along the line that best reflects the percentage of total time the student exhibited each target behavior. Note that the percentages do not need to total 100% across behaviors because some behaviors may co-vary. If desired, an additional behavior may be defined and rated.

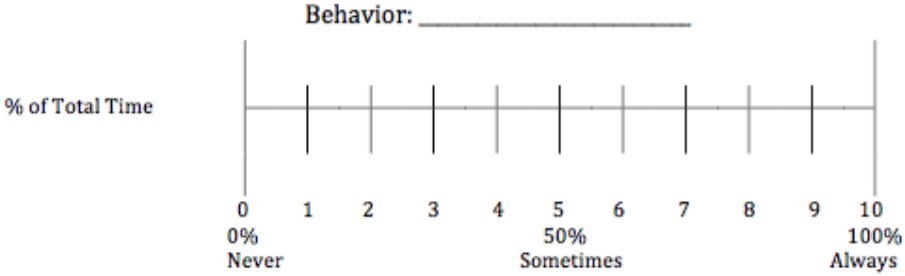
Behavior: _____




Behavior: _____




Behavior: _____



APPENDIX G: Academic Disengagement Observation Measure

## Momentary Time Sampling Data Recording Sheet

Student Name: _____
Date/Time:_____
Class:_____
____ students present; ____ teacher(s) present

*Indicate "x" if off-task behavior occurred at any point in the 15-second interval

| Interval # | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| | | | | | | | | | |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| | | | | | | | | | |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| | | | | | | | | | |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| | | | | | | | | | |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| | | | | | | | | | |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| | | | | | | | | | |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| | | | | | | | | | |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| | | | | | | | | | |

Total Time Observed: 20 minutes
Total # intervals on-task =
Total # intervals off-task =

APPENDIX H: CBITS Fidelity Adherence Measure

**CBITS Adherence / Fidelity Measure**

***Session 1:***

**Did the group leader cover the following elements?**

**0 – not covered at all**
**1 – cursory reference to this topic and quick review**
**2 – group leader clearly covers the topic, with or without cooperation of group members**
**3 – group leader covers the topic thoroughly, integrating it into the larger context of therapy and in an interactive style)**

_____ Introduction of group members, confidentiality, and group procedures.
_____ Explanation of treatment using stories
_____ Discussion of reasons for participation (kinds of stress or trauma).
_____ Homework assignment: Goal-setting

**Session 2:**

**Did the group leader cover the following elements?**

**0 – not covered at all**
**1 – cursory reference to this topic and quick review**
**2 – group leader clearly covers the topic, with or without cooperation of group members**
**3 – group leader covers the topic thoroughly, integrating it into the larger context of therapy and in an interactive style)**

_____ Homework review: Goal-setting
_____ Education about common reactions to stress or trauma.
_____ Relaxation training to combat anxiety
_____ Homework assignment: Review handout with parents, practice relaxation

**Session 3:**

**Did the group leader cover the following elements?**

**0 – not covered at all**
**1 – cursory reference to this topic and quick review**
**2 – group leader clearly covers the topic, with or without cooperation of group members**
**3 – group leader covers the topic thoroughly, integrating it into the larger context of therapy and in an interactive style)**

_____ Homework review: Review handout with parents, practice relaxation
_____ Thoughts and Feelings (Introduction to Cognitive Therapy)

_____ Fear Thermometer
_____ Linkage between thoughts and feelings
_____ Combating negative thoughts: Alternatives (other ways to think about it)
_____ Combating negative thoughts: Implications (what will happen)
_____ Homework assignment: Hot Seat worksheet

**Session 4:**

**Did the group leader cover the following elements?**

**0 – not covered at all**
**1 – cursory reference to this topic and quick review**
**2 – group leader clearly covers the topic, with or without cooperation of group members**
**3 – group leader covers the topic thoroughly, integrating it into the larger context of therapy and in an interactive style)**

_____ Homework review: Hot Seat worksheet
_____ Combating negative thoughts: Plan of Attack
_____ Combating negative thoughts: Evidence (checking the facts)
_____ Practice with the Hot Seat
_____ Homework assignment: Hot Seat worksheet

**Session 5:**

**Did the group leader cover the following elements?**

**0 – not covered at all**
**1 – cursory reference to this topic and quick review**
**2 – group leader clearly covers the topic, with or without cooperation of group members**
**3 – group leader covers the topic thoroughly, integrating it into the larger context of therapy and in an interactive style)**

_____ Homework review: Hot Seat worksheet
_____ Avoidance and coping (Introduction to Real Life Exposure)
_____ Construction of fear hierarchy
_____ Alternative coping strategies: thought stopping, distraction, positive imagery
_____ Homework assignment: real-life exposure, practice coping strategies

**Session 6:**

**Did the group leader cover the following elements?**

**0 – not covered at all**
**1 – cursory reference to this topic and quick review**
**2 – group leader clearly covers the topic, with or without cooperation of group members**

**3 – group leader covers the topic thoroughly, integrating it into the larger context of therapy and in an interactive style)**

_____ Homework review: real-life exposure, practice coping strategies
_____ Exposure to stress or trauma memory through imagination/drawing/writing
_____ Providing closure through discussion, summary, next steps
_____ Homework assignment: finish drawing / story, think about it, real-life exposure, hot seat

**Session 7:**

**Did the group leader cover the following elements?**

**0 – not covered at all**
**1 – cursory reference to this topic and quick review**
**2 – group leader clearly covers the topic, with or without cooperation of group members**
**3 – group leader covers the topic thoroughly, integrating it into the larger context of therapy and in an interactive style)**

_____ Homework review: finish drawing / story, think about it, real-life exposure, hot seat
_____ Exposure to stress or trauma memory through imagination/drawing/writing
_____ Providing closure through discussion, summary, next steps
_____ Homework assignment: finish drawing / story, think about it, real-life exposure, hot seat

**Session 8:**

**Did the group leader cover the following elements?**

**0 – not covered at all**
**1 – cursory reference to this topic and quick review**
**2 – group leader clearly covers the topic, with or without cooperation of group members**
**3 – group leader covers the topic thoroughly, integrating it into the larger context of therapy and in an interactive style)**

_____ Homework review: finish drawing / story, think about it, real-life exposure, hot seat
_____ Introduction to social problem solving
_____ Negative thoughts
_____ Brainstorming solutions
_____ Decision-making: pros and cons
_____ Homework assignment: problem-solving practice, real-life exposure

**Session 9:**

**Did the group leader cover the following elements?**

**0 – not covered at all**
**1 – cursory reference to this topic and quick review**
**2 – group leader clearly covers the topic, with or without cooperation of group members**
**3 – group leader covers the topic thoroughly, integrating it into the larger context of therapy and in an interactive style)**

_____ Homework review: problem-solving practice, real-life exposure
_____ Practice with social problem solving
_____ Practice with the hot seat

**Session 10:**

**Did the group leader cover the following elements?**

**0 – not covered at all**
**1 – cursory reference to this topic and quick review**
**2 – group leader clearly covers the topic, with or without cooperation of group members**
**3 – group leader covers the topic thoroughly, integrating it into the larger context of therapy and in an interactive style)**

_____ Relapse prevention discussion
_____ Graduation ceremony

**FOR EACH SESSION**:

***Did the therapist ask the group to summarize part of the session, or ask if they understand the material presented?***

0: Therapist never asks children if they understand session material, and never asks children to summarize a point that had been discussed or covered in skill training.
1: Therapist summarizes a point but does not ask children to do so and does not check-in to assure that children "gets" the point.
2: Therapist elicits one or more summaries from the children during session or checks in at end of session by asking children to indicate if they feels work is meeting their needs (e.g., "making sense" to them).
3: Therapist meets criteria for 2, above, and weaves summaries or check-ins into session in well-integrated, "natural," fashion.

**Did the therapist convey empathy to the children?**

0: Major and consistent lack of empathy, e.g., therapist is "reading to" the group, and likely to be missing major cues over entire session; no effort to understand the children
1: Although there may be moments of emphatic connection, session as a whole is marked by absence of empathy; therapist clearly annoyed at children, impatient or intolerant of children

2: Therapist makes consistent effort to understand children and responds with empathy to the emotions of the children
3: Therapist meets criteria for 2, above, and maintains empathic relationship throughout session

**Did the therapist work within a cognitive-behavioral framework?**
0: Session consists entirely of supportive, non-directive therapy, of interpersonal therapy, or of another model of treatment that is not CBT
1: Some CBT concepts or techniques are included in session, but out of the context of a CBT model; for example, CBT concepts or techniques serve as an add-on to what the therapist is doing
2: The therapist stays within a CBT framework consistently throughout the session, and does not use another treatment model
3: The therapist stays within a CBT model, conveys an understanding of that model to the patient and uses the model to deal with the children's concerns

**Was the therapist able to manage the group?**
0: Not at all: the therapist made multiple attempts to control the group and cover material, but was unsuccessful.
1: Some control over the group, though there was still a good deal of cross-talk, joking, and/or non-compliance among group members.
2: Moderate control over the group, despite some difficulties.
3: Therapist is able to control the group in order to convey the material.

**What was the overall level of group motivation?**
0: Very low.
1: Low
2: Moderate.
3: High

**What was the overall level of comprehension of material in the group?**
0: Low for most students
1: Low for some students, moderate to high for others
2: Moderate to high for most students
3: Moderate to high for all students

**What was the overall group participation level?**
0: Low, most group members reticent
1: Low for some students, moderate to high for others
2: Moderate to high for most students
3: All students participating actively

APPENDIX I: Children's Usage Rating Profile (CURP)

# CURP-ACTUAL

Directions: Think about the method that your teacher/interventionist has used with you. After reading each sentence, circle the number that matches your belief about it. For example, if the sentence was "I like chocolate ice cream," you might circle "4" for "I totally agree."

| | | I totally disagree | I kind of disagree | I kind of agree | I totally agree |
|---|---|---|---|---|---|
| 1. | This was too much work for me. | 1 | 2 | 3 | 4 |
| 2. | I understand why my teacher picked this method to help me. | 1 | 2 | 3 | 4 |
| 3. | I could see myself using this method again. | 1 | 2 | 3 | 4 |
| 4. | This is a good way to help students. | 1 | 2 | 3 | 4 |
| 5. | It is clear what I had to do. | 1 | 2 | 3 | 4 |
| 6. | I would not want to try this method again. | 1 | 2 | 3 | 4 |
| 7. | This took too long to do. | 1 | 2 | 3 | 4 |
| 8. | If my friend was having trouble, I would tell him/her to try this. | 1 | 2 | 3 | 4 |
| 9. | I was able to do every step of this method. | 1 | 2 | 3 | 4 |
| 10. | I felt like I had to use this method too often. | 1 | 2 | 3 | 4 |
| 11. | Using this method gave me less free time. | 1 | 2 | 3 | 4 |
| 12. | There are too many steps to remember. | 1 | 2 | 3 | 4 |
| 13. | Using this method got in the way of doing other things. | 1 | 2 | 3 | 4 |
| 14. | I understand why the problem needed to be fixed. | 1 | 2 | 3 | 4 |
| 15. | This method focused too much attention on me. | 1 | 2 | 3 | 4 |
| 16. | I was excited to try this method. | 1 | 2 | 3 | 4 |
| 17. | This method made it hard for the other students to work. | 1 | 2 | 3 | 4 |
| 18. | I would volunteer to use this method again. | 1 | 2 | 3 | 4 |
| 19. | It is clear what the adult needed to do. | 1 | 2 | 3 | 4 |
| 20. | I was able to use this method correctly. | 1 | 2 | 3 | 4 |
| 21. | I liked this method. | 1 | 2 | 3 | 4 |

APPENDIX J: Parental Consent to Participate

# UNIVERSITY OF WISCONSIN – MILWAUKEE
# PARENTAL CONSENT FOR CHILD TO PARTICIPATE IN RESEARCH

## 1. General Information

**Study Title:**
Targeting Trauma: Improving School Outcomes for Students in Out-of-Home Care

**Person in Charge of Study (Principal Investigator):**

Kyongboon Kwon, PhD
Associate Professor
Department of Educational Psychology
University of Wisconsin—Milwaukee

Anna Benton, MA
Researcher
Department of Educational Psychology
University of Wisconsin—Milwaukee

## 2. Study Description

Your child is being asked to participate in a research study. Your child's participation is completely voluntary. Your child does not have to participate if you do not want him/her to participate.

**Study description:**
The purpose of this study is to determine whether a trauma-based intervention (CBITS) may help improve your child's academic and behavioral outcomes in school. This study is being done because research shows that childhood trauma is connected to poor educational outcomes, however trauma-based interventions are rarely implemented in the school setting to assist children who reside in out-of-home placements, such as foster care or group homes.

CBITS is a manualized intervention that focuses on teaching students skills in relaxation, challenging upsetting thoughts, social problem solving, and processing traumatic memories and grief. A typical session will consist of student check-in and processing, skill instruction, opportunity for skill practice, and the assignment of a worksheet for next week's session.

This study will be done at your child's school. Your child will complete a screening tool to determine whether they are eligible to participate in our intervention group. Furthermore,

your child's teacher will complete a screening survey to determine eligibility, including a brief interview about your child's behavior. If eligible, your child will be asked to participate in an individual 45-minute session immediately following school once a week for a total of 10 weeks. Your child will be randomly selected to participate in the intervention either this academic year, or next. The interventionist (Anna Benton, M.A., Doctoral Student at UWM; trained in CBITS implementation) will meet with your child after school and teach them strategies to succeed both academically and behaviorally. As a part of the study, your child's behavior will be observed in the classroom twice a week by the researcher. You will also have the opportunity to participate in two voluntary parent education sessions taking place after-school. During these voluntary sessions, you will have the opportunity to ask any questions about CBITS, and we will provide you with a brief overview of the strategies we teach during the intervention. In order to ensure that the interventionist is implementing CBITS correctly and effectively, two of your child's sessions will be audiotaped. These audiotapes will help determine whether the interventionist is delivering CBITS according to the manualized procedures.

If you choose to have your child participate in this study, we will ask your child's teacher to observe any behavioral changes in the classroom, and make note of them in a behavioral rating scale every week.

If your child does not meet the screening criteria for eligibility in the study, we can provide you with community resources and referrals. If you still wish for your child to receive CBITS, we will be available to provide this intervention at a later date.

If your child continues to have difficulty emotionally after all intervention sessions are finished, we can provide resources and referrals in the community.

## 3. Study Procedures

**What will I be asked to do if I participate in the study?**
If you agree to allow your child to participate:

Experimental Group (receiving intervention this academic year): He or she will be asked to attend a 45-minute skill session once a week (for a total of 10 weeks) immediately following the school day. Parents/guardians will be responsible for pick-up after these sessions. Your child may be asked to perform several tasks during the individual sessions (total duration 45 minutes per week):

- Actively participate in discussion around trauma and coping strategies
- Complete weekly rating scales (17-items) about their stress symptoms
- Complete a brief demographic questionnaire with your assistance

Waitlist Group (receiving intervention next academic year): He or she will be asked to perform several tasks (total duration 2-3 minutes per week, for a total of 10 weeks).

- Complete weekly rating scales (17-items) about their stress symptoms
- Complete a brief demographic questionnaire with your assistance

## 4. Risks and Minimizing Risks

**What risks will my child face by participating in this study?**

It is possible that your child may experience psychological risk while participating in this study (i.e., negative memories brought up by processing traumatic experiences or grief). However, we will do our best to minimize the possibility of this risk by (1) helping your child work through any discomfort or distress by utilizing the skills they learn in sessions, (2) meeting with your child on an individual basis to help them further process and work through issues, and (3) referring your child to the school social worker or school psychologist if they continue to experience discomfort.

It should be noted that the researcher is a mandated reporter. As such, any information shared during sessions or while awaiting parent/guardian pick-up pertaining to the disclosure of child abuse or harm to self/others will be shared with you and the appropriate authorities.

## 5. Benefits

**Will my child receive any benefit from my participation in this study?**

Your child may benefit from participating in this study, both academically and emotionally. Your child may learn new strategies for coping with traumatic experiences and current stressors, as well as ways to help process his/her emotions and improve behavior. In addition, your child may experience academic benefits, such as an improvement in on-task classroom behavior and academic engagement.

## 6. Study Costs and Compensation

**Will I or my child be charged anything to participate in this study?**

You will not be responsible for any of the costs from taking part in this research study.

**Will I or my child be paid or given anything for being in the study?**

Your child will receive a $5 Walmart gift card each week they attend a session (total of $50 in gift cards).

## 7. Confidentiality

**What happens to the information collected?**
All information collected about your child during the course of this study will be kept confidential to the extent permitted by law. We may decide to present what we find to others, or publish our results in scientific journals or at scientific conferences. Information that identifies your child personally will not be released without your written permission. Only the PI and researcher will have access to the information. However, the Institutional Review Board at UW-Milwaukee or appropriate federal agencies like the Office for Human Research Protections may review your child's study related records.

Your child's information will be stored in a locked office and a password-protected computer. Your child's information will be coded with a numerical ID. We will keep identifying information separate from the collected research data. This link will be destroyed after we finish collecting and analyzing the data.

## 8. Alternatives

**Are there alternatives to participating in the study?**

If you still wish for your child to receive CBITS, but not participate in the study, we will be available to provide this intervention at a later date. Please feel free to express your interest to the researcher or primary investigator.

## 9. Voluntary Participation and Withdrawal

**What happens if I decide not to allow my child to be in this study?**
Your child's participation in this study is entirely voluntary. You may choose not allow your child to take part in this study. If you decide to allow your child take part, you can change your mind later and withdraw him/her from the study. In addition, your child will also be asked whether he/she would like to participate in the research study by reading and signing an assent form which describes the study, and hearing a description of the study and verbally agreeing to participate. Your child will be free to not answer any questions or withdraw at any time. Your and your child's decision will not change any present or future relationships with the University of Wisconsin Milwaukee. Your child's refusal to take part in the study will not affect their grade or class standing. If your child withdraws early, we will destroy all information we collect about him/her.

## 10. Questions

**Who do I contact for questions about this study?**
For more information about the study or the study procedures or treatments, or to withdraw your child from the study, contact:

Anna Benton
abenton@kusd.edu
262-359-8546

**Who do I contact for questions about my child's rights or complaints about my child's treatment as a research subject?**
The Institutional Review Board may ask your name, but all complaints are kept in confidence.

Institutional Review Board
Human Research Protection Program
Department of University Safety and Assurances
University of Wisconsin – Milwaukee
P.O. Box 413
Milwaukee, WI 53201
(414) 229-3173

## 11. Audio or Video recording or Photographs

**Consent to Audio/Video/Photo Recording:**

This study will be using audio recording. A randomized sample of two sessions will be audio recorded to ensure the interventionist is implementing the intervention appropriately and with fidelity.

## 12. Signatures

**Parental/Guardian Consent:**

*I have read or had read to me this entire consent form, including the risks and benefits. I have had all of my questions answered. I understand that I may withdraw my child from the study at any time. I am not giving up any legal rights by signing this form. I am signing below to give consent for my child to participate in this study.*

_____
Printed Name of Child Participant

_____
Printed Name of Parent/Guardian

_____ _____

Signature of Parent/Guardian Date

**Principal Investigator (or Designee)**

*I have given this research subject information on the study that is accurate and sufficient for the subject to fully understand the nature, risks and benefits of the study.*

_____ _____

Printed Name of Person Obtaining Consent Study Role

_____ _____

Signature of Person Obtaining Consent Date

APPENDIX K: Student Assent to Participate

# UNIVERSITY OF WISCONSIN – MILWAUKEE
# ASSENT TO PARTICIPATE IN RESEARCH

**Study Title:**
Targeting Trauma: Improving School Outcomes for Students in Out-of-Home Care
**Person in Charge of Study:**
Kyongboon Kwon, PhD and Anna Benton, M.A.

You are being asked to participate in a research study. Your participation is completely voluntary. You do not have to participate if you do not want to participate. If you decide that you want to be part of this study, you will be asked to meet with me (Miss Anna) once a week where we will talk about how to deal with stress and negative feelings. You will be selected to participate in this intervention either this academic year, or next. If you are selected, you will be a part of either the experimental or waitlist group:

Experimental Group (receiving intervention this academic year): You will be asked to attend a 45-minute skill session once a week (for a total of 10 weeks) immediately following the school day. Parents/guardians will be responsible for pick-up after these sessions. You will be asked to perform several tasks during the individual sessions (total duration 45 minutes per week):

- Actively participate in discussion around trauma and coping strategies
- Complete weekly rating scales (17-items) about your stress symptoms
- Complete a brief demographic questionnaire with your parent/guardian's assistance

Waitlist Group (receiving intervention next academic year): You will be asked to perform several tasks (total duration 2-3 minutes per week, for a total of 10 weeks).

- Complete weekly rating scales (17-items) about your stress symptoms
- Complete a brief demographic questionnaire with your parent/guardian's assistance

As a part of this study, your teacher and I will be observing your academic behavior in the classroom twice a week. To make sure that I am teaching you the intervention skills in the best way possible, two of our sessions will be audiotaped. Don't worry, nobody will know about the information we talk about; this is just to make sure that I am teaching you everything you need to know.

There are some parts of the study that might hurt or upset you. You may feel upset talking about some issues, but we will be here to support you. I am letting you know that if you share any information about somebody hurting you or if you're thinking of hurting yourself or someone else, I have to let your parent know.

You don't have to be in this study. It is up to you and no one will be mad at you. Your grade in this class or your relationship with your teacher will not change if you do or do not choose to do be in the study. If you say yes now, but change your mind later, that's okay too. Just let me know.

When we are finished with this study we will write a report about what was learned. This report will not include your name or that you were in the study.

If you decide you want to be in this study, please print and sign your name.

I, _____, want to be in this research study.
(Print your name here)

_____ _____
(Sign your name here) (Date)

**Principal Investigator (or Designee)**
*I have given this research subject information on the study that is accurate and sufficient for the subject to fully understand the nature, risks and benefits of the study.*

_____ _____
Printed Name of Person Obtaining Consent Role on Study

_____ _____
Signature of Person Obtaining Consent Date

APPENDIX L: Teacher Consent to Participate

## University of Wisconsin – Milwaukee
## Teacher Consent to Participate in Research

**Study Title:** Targeting Trauma: Improving School Outcomes for Students in Out-of-Home Care

**Person Responsible for Research:** Dr. Kyongboon Kwon & Anna Benton

**Study Description:** The purpose of this research study is to determine whether a trauma-based intervention may help improve students' academic and behavioral outcomes in school. If you agree to participate, you will (1) be asked several questions to determine the student's problem behavior (10-15 minutes), (2) complete a brief student screening tool (5-10 minutes), and (3) observe the student's classroom behavior and fill out a weekly behavior rating scale (2 minutes per observation; total of 10 minutes) You will also be asked to participate in one teacher education session (scheduled at your convenience) for approximately 30 minutes, where we will discuss strategies for working with students exposed to trauma.

**Risks / Benefits:** Risks that you may experience from participating are considered minimal. There are no costs for participating. There are no benefits to you other than to further research.

**Confidentiality:** Identifying information such as your name will be collected for research purposes (i.e., linking student data to teacher data). The research team will remove your identifying information after linking the data and all study results will be reported without identifying information so that no one viewing the results will ever be able to match you with your responses. Data from this study will be saved on a password-protected computer in a locked room (UW-Milwaukee Enderis 745) for one year. Only the PI and researcher will have access to your information. However, the Institutional Review Board at UW-Milwaukee or appropriate federal agencies like the Office for Human Research Protections may review this study's records.

**Voluntary Participation:** Your participation in this study is voluntary. You may choose not to take part in this study, or if you decide to take part, you can change your mind later and withdraw from the study. You are free to not answer any questions or withdraw at any time. Your decision will not change any present or future relationships with the University of Wisconsin Milwaukee.

**Who do I contact for questions about the study:** For more information about the study or study procedures, contact Anna Benton at abenton@kusd.edu or 262-359-8546.

**Who do I contact for questions about my rights or complaints towards my treatment as a research subject?** Contact the UWM IRB at 414-229-3173 or irbinfo@uwm.edu.

**Research Subject's Consent to Participate in Research:**
To voluntarily agree to take part in this study, you must be 18 years of age or older. By signing the consent form, you are giving your consent to voluntarily participate in this research project.

_____
Printed Name of Subject/Legally Authorized Representative

_____ _____
Signature of Subject/Legally Authorized Representative Date

APPENDIX M: Certification of CBITS Training

March 24, 2017

Cognitive Behavioral Intervention for Trauma in Schools

This is to certify that Anna Benton has completed, in its entirety, the following online course sponsored by 3-C Institute for Social Development and the National Child Traumatic Stress Network:

CBITS Provider Basic Training Course, Part 1

2 Hours of CE Credit

Certificate ID#: 1197461204

© 3C Institute

4364 S. Alston Avenue, Suite 300 | Durham, NC 27713
Telephone: (919) 677-0102 x568 Fax: (919) 677-0112 Web: www.3cisd.com

ASWB
This organization, 3C Institute, is approved as a provider for continuing education by the Association of Social Work Boards, www.aswb.org. ASWB Approval Period: 9/16/15 - 9/16/18. The 3C Institute maintains responsibility for the program. Social workers should contact their regulatory board to determine course approval.

NBCC
3C Institute has been approved by NBCC as an Approved Continuing Education Provider, ACEP No. 6332. Programs that do not qualify for NBCC credit are clearly identified. 3C Institute is solely responsible for all aspects of the programs.

March 24, 2017

Cognitive Behavioral Intervention for Trauma in Schools

This is to certify that Anna Benton has completed, in its entirety, the following online course sponsored by 3-C Institute for Social Development and the National Child Traumatic Stress Network:

CBITS Provider Training Course, Part 2

3 Hours of CE Credit

Certificate ID#: 1205460857

© 3C Institute

4364 S. Alston Avenue, Suite 300 | Durham, NC 27713
Telephone: (919) 677-0102 x568 Fax: (919) 677-0112 Web: www.3cisd.com

ASWB
This organization, 3C Institute, is approved as a provider for continuing education by the Association of Social Work Boards, www.aswb.org. ASWB Approval Period: 9/16/15 - 9/16/18. The 3C Institute maintains responsibility for the program. Social workers should contact their regulatory board to determine course approval.

NBCC
3C Institute has been approved by NBCC as an Approved Continuing Education Provider, ACEP No. 6332. Programs that do not qualify for NBCC credit are clearly identified. 3C Institute is solely responsible for all aspects of the programs.

# CURRICULUM VITAE

## EDUCATION

**Ph.D.** University of Wisconsin-Milwaukee
Educational Psychology – School Psychology (APA, NASP Accredited)
Dissertation: Targeting Trauma: Improving School Outcomes for Students in Foster Care

**M.A.** University of Minnesota
Educational Psychology – School Psychology (APA, NASP Accredited)
Thesis: The Impact of Parental Incarceration on Educational Outcomes

**B.A.** Illinois Wesleyan University
Major/s: Psychology, English; *Magna Cum Laude*

## HONORS & AWARDS

Distinguished Graduate Student Fellowship: University of Wisconsin-Milwaukee (UWM) 2017-2018
Chancellor's Graduate Student Award: UWM 2016-2017 & 2017-2018
Michelle A. Miller Memorial Scholarship: UWM 2017-2018
Joseph & Loretta Eiserlo/Robert Keuhneisen Teacher for a New Era Scholarship: UWM 2017-2018
Education Honor Society Pi Lambda Theta

## GRADUATE WORK EXPERIENCE

**Teaching Assistant** to Dr. Stoiber, Dr. Kwon, & Dr. Klingbeil *2016-2017*
Department of Educational Psychology
School Psychology Program—University of Wisconsin

- TA to the following graduate-level courses: Ed Psych 760 Academic Assessment/Intervention; Ed Psych 851 Behavioral and Personality Assessment/Intervention; Ed Psych 755 Cognitive Assessment/Intervention; Ed Psych 752 Developmental Psychopathology
- Responsible for providing students with direct instruction on a variety of school psychological domains, meeting with students individually and in small-groups outside classroom hours, and holding office hours to provide additional student support.
- Lecturing, grading, and managing grades on D2L.

**Research Assistant** to Dr. Traci LaLiberte & Dr. Kristine Piescher *2014-2016*
Center for Advanced Studies in Child Welfare (CASCW)
University of Minnesota

- Graduate researcher on Minn-LInK (a project that uses integrated state administrative data from multiple agencies to answer questions about the impacts of policies, programs, and practice on the well-being of children in Minnesota).
- Responsible for matching cases and linking multiple large datasets via software Link Plus (e.g., Minnesota Department of Education, Minnesota Department of Human Services, Minnesota Department of Justice); organized, maintained, and presented datasets to be used for analysis.
- Conducted data analysis of cross-systemic integrative research inquiries presented by multiple state and federal agencies and stakeholders using SPSS software.

**Research Assistant** to Dr. Traci LaLiberte *2014-2016*
Center for Advanced Studies in Child Welfare (CASCW)
ANU Family Services Grant

- Assisted in the development of a well-being indicator tool for youth (WIT-Y assessment) designed to encourage the self-assessment of youth ages 15-21 who currently or in the past have had contact with the child welfare system; the WIT-Y covers several domains of well-being including safety and security, relationships, physical health, community, mental health, purpose, and environment.
- Responsible for piloting the WIT-Y tool with youth ages 15-21 in foster care: responsibilities included recruiting statewide and nationwide agencies to promote the WIT-Y and encourage youth to participate in pilot study; screening eligible youth for study and gathering consent/assent; managing survey database; interviewing youth to gather feedback on WIT-Y utility and usage.

## RESEARCH PUBLICATIONS

**Benton, A.** (2019). Building bridges: Improving educational outcomes through multi-system collaboration. *Communique, 82,* 115-128.

Kwon, K., Kupzyk, K., & **Benton, A.** (2018). Negative emotionality, emotion regulation, and achievement: Cross-lagged relations and mediation of academic engagement. *Learning and Individual Differences, 67,* 33-40.

Burns, M. K., … **Benton, A.,** et al. (2018). *Introduction to school psychology: Controversies and current practice.* New York, NY: Oxford University Press.

Piescher, K., LaLiberte, T., Mickelson, N., **Benton, A**., & Glesener, D. (2017). Minn-LInK Child Welfare Compendium. Center for Advanced Studies in Child Welfare, University of Minnesota, St. Paul, MN. Available from http://cascw.umn.edu/portfolio_tag/minn-link/

Bloomquist, M. L., Giovanelli, A., **Benton, A**., & Piehler, T. F. (2016). Implementation and evaluation of evidence-based psychotherapeutic practices for youth in a mental health organization. *Journal of Child and Family Studies, 25*, 3278-3293.

**Benton, A**., Piescher, K., LaLiberte, T. (2016). *Educational stability and achievement among youth in foster care.* Center for Advanced Studies in Child Welfare. MinnLInk Minnesota Linking Information for Kids Database.

Hong, S., Piescher, K., LaLiberte, T., & **Benton, A.** (2015). *Violent victimization among adolescent youth in Minneapolis*. Center for Advanced Studies in Child Welfare. MinnLInk Minnesota Linking Information for Kids Database.

Horn, T. L., Piescher, K., Shannon, P. J., Hong, S., & **Benton, A**. (2017). Experiences of Somali and Oromo youth in the child protection system. *Children and Youth Services Review*, *79,* 10-19.

Kim, J., Piescher, K., LaLiberte, T., & **Benton, A**. (Accepted; awaiting publication). Minnesota adoption disruptions and dissolutions: An examination of children in private out-of-home placements. *Children and Youth Services Review.*

LaLiberte, T., & **Benton, A**. (Accepted; awaiting publication). Evaluating the well being of youth in

foster care using the Well-Being Indicator Tool for Youth (WIT-Y). *Journal of Public Child Welfare.*

LaLiberte, T., Piescher, K., & **Benton, A**. (under review). Cross-system communication patterns between child welfare and school systems. *Children and Youth Services Review.*

## REFEREED PRESENTATIONS

**Benton, A**. (2018, February). Targeting trauma for school success. Poster presentation at the annual convention of the National Association of School Psychologists, Chicago, IL.

Kwon, K., **Benton, A.,** Hanrahan, & Teer, J. (2018, February). Long-term stability and predictability of peer nominations of emotionality. Poster presentation at the annual convention of the National Association of School Psychologists, Chicago, IL.

**Benton, A.** (2017, February). Barriers beyond bars: Interventions for students with incarcerated parents. Poster presentation at the annual convention of the National Association of School Psychologists, New Orleans, LA.

**Benton, A.,** Piescher, K., & LaLiberte, T. (2016, February). Disconnected: Communication patterns between child protection and school systems. Poster presentation at the annual convention of the National Association of School Psychologists, New Orleans, LA.

**Benton, A.,** & Piescher, K. (2015, October). Best practices for addressing the child protection achievement gap. Workshop presentation at the annual Minnesota Educator Academy conference. St. Paul, MN.

Piescher, K., LaLiberte, T., & **Benton, A**. (2015, April). A total disconnect: Communication patterns between child protection and school systems. Poster presentation at the annual research day for the College of Education + Human Development, University of Minnesota, MN.

**Benton, A.** (2015, February). Who s who in alternative high schools? Poster presentation at the annual convention of the National Association of School Psychologists, Orlando, FL.

**Benton, A.,** Shlafer, R., & Marcou, D. (2015, February). Read to me behind bars: Parental incarceration and school psychology. Poster presentation at the annual convention of the National Association of School Psychologists, Orlando, FL.

Bloomquist, M. L., Piehler, T. F., Giovanelli, A., **Benton, A.,** & Oberstar, J. (2014, October). Translation of evidence-based psychotherapeutic practices for youth into a mental health organization. Poster presentation at the 61st Annual Meeting of the American Academy of Child and Adolescent Psychiatry, San Diego, CA.

Sullivan, A. L., **Benton, A.,** VanHove, B., & Baker, J. (2014, February). Disparities in autism identification: Ecological factors influencing diagnosis. Poster presentation at the annual convention of the National Association of School Psychologists, Washington D.C.

## PROFESSIONAL AND HONORARY MEMBERSHIPS

American Psychological Association
Division of School Psychology (APA Division 16)
National Association of School Psychologists
Psi Chi International Honor Society, Inducted 2010