

EVALUATING THE EFFECTIVENESS OF A TIER 1  
TEACHER TRAINING PROGRAM DESIGNED TO  
ADDRESS TIER 3 BEHAVIORAL CHALLENGES IN  
KINDERGARTEN CLASSROOMS: THE TEACHER-  
CHILD INTERACTION TRAINING –  
COMPREHENSIVE PROGRAM

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Major Field: SCHOOL PSYCHOLOGY

Abstract: The Teacher-Child Interaction Training – Comprehensive Program (TCIT-C) is a manualized teacher training intervention designed to improve social, emotional, and behavioral competence of children ages 2-6. The training utilizes a Tier 1 teacher-child intervention, in which the skills acquired by the teacher are delivered to all students. However, the skills acquired by the teachers are specifically designed to meet the needs of challenging behaviors that often require Tier 3 services.

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## CHAPTER I

### INTRODUCTION

School is a critical developmental setting for children where they make friends, learn to share, read, write, and interact with teachers and peers in an appropriate manner. However, the academic and social skills that are acquired during the school years can be stifled by challenging student behaviors within the classroom environment (Colvin, 2009). Research suggests that both enrollment rates and behavioral difficulties in the public education system are on the rise (Snyder, de Brey, & Dillow, 2016; U.S. Department of Education, 2017). In fact, challenging student behaviors in the general education setting (e.g., inattention, impulsivity, and noncompliance) range between 12% to 20% (Fabiano et al., 2013). Further, teachers at early childhood education programs have reported that up to 40% of their students display one or more problematic behaviors on a daily basis, and many students demonstrate six or more problematic behaviors each day (Willoughby, Kupersmidt, & Bryant, 2001). Without early intervention, students who display chronic disruptive behaviors may be at-risk for several adverse outcomes during their education, including loss of time for academic lessons and potentially academic failure, substance abuse, and violence (Fabiano et al., 2010; Lewis, 2021; Martin & Pear, 2007; Owens, Murphy, Richerson, Girio, & Himawan, 2008; Snyder, 2001; Webster-Stratton & Taylor, 2001).

Research also indicates that as the number of children experiencing behavioral difficulties in schools increases, so does the number of teachers who report feeling unprepared for the daily behavioral challenges (Wheatley et al., 2009). Importantly, teachers report disruptive behaviors as one of the single greatest challenges they face in providing quality programming (Wheatley et al., 2009), and identify behavioral intervention training as one of their most significant professional development needs (Joseph, Strain, & Skinner, 2004). However, rather than providing teachers with behavior management training, an alarming number of schools are suspending students, with an estimated 3.3 million students per year being suspended for disruptive and insubordinate behavior (Skiba et al., 2006). Notably, a review of exclusionary and zero-tolerance disciplinary policies by the American Psychological Association (APA) in 2006 found no evidence that the use of suspension, expulsion, or zero-tolerance policies resulted in improved student behavior or increased school safety (Skiba et al., 2006).

Additionally, persistent student behavioral challenges and ineffective classroom management strategies are strongly associated with teacher burnout (Ozdemir, 2007). Teachers who are unhappy or stressed are at a high risk for leaving their jobs, while those teachers who remain in the classroom experience burnout and often engage in negative behavior management practices that hinder the academic learning environment (Hughes, 2001). For instance, harsh, punitive, and inconsistent behavioral management strategies are largely ineffective and punitive practices are repeatedly associated with increased behavioral difficulties (e.g., oppositional and aggressive behaviors) and negative teacher-child relationships (Cameron & Sheppard, 2006; Stormshak, Bierman, McMahon, & Lengua, 2000).

Not surprisingly, negative teacher-child relationships are highly correlated with undesirable student outcomes, such as low social and emotional competence, increased school avoidance, poor academic functioning, and increased behavioral problems (Martin & Pear, 2007; Pianta & Stuhlman, 2004). Further, longitudinal research has linked negative teacher-child relationships in early childhood to high levels of behavior problems and outcomes through 8<sup>th</sup> grade, particularly for young

males (Hamre & Pianta, 2005). Thus, prevention and early intervention programs that focus on improving teacher-child relationships are critical for the social, behavioral, and academic development of young children (Driscoll & Pianta, 2010; Owens et al., 2018).

Research suggests that one of the most important steps in developing and implementing behavioral intervention programs within schools is matching the intensity of the intervention to the intensity and severity of the problem (Gresham, 2004). One prevention and early intervention approach that has been heavily implemented within schools nationwide is a multi-tiered service delivery model (Sullivan & Long, 2010). This approach focuses on early identification and support of students with learning and behavior needs (i.e., preventing problems rather than intervening as a means to an end; Walker & Sprague, 2002). Several frameworks that incorporate a multi-tiered approach currently exist and are more commonly known as Multi-Tiered Systems of Support (MTSS), Response to Intervention (RTI), and/or Positive Behavior Intervention and Supports (PBIS).

Each framework begins with Tier 1 (*Universal Supports & Practices*) where students receive high-quality classroom instruction and universal screening in order to establish an academic and behavioral baseline. Tier 1 allows for the identification of struggling students who need additional support, and students identified as at risk through universal screening receive supplemental instruction during the school day within the regular classroom. Students who are not making adequate progress in the regular classroom with Tier 1 instruction, are moved to Tier 2 (*Targeted Supports*). Students receiving Tier 2 services are provided with increasingly intensive instruction and targeted interventions that are matched to student needs based on performance and rates of progress. Students needing Tier 2 supports receive services in small-group settings in addition to Tier 1 services (i.e., general classroom instruction). Students who show too little progress with Tier 2 services are then considered for more intensive interventions as part of Tier 3 services (*Intensive Supports*). Within Tier 3, students receive individualized, intensive interventions that target the students' skill deficit(s) or problem behavior while they continue to participate in Tier 1 and Tier 2 services.

Notably, students who do not respond to the tiered-level approach are referred for a comprehensive evaluation and may be eligible for special education services.

There are variations in how the multi-tiered services approach are used throughout the school systems, and no single model has been accepted as the “gold standard” (Bradley et al., 2005). In addition, “the U.S. Department of Education does not recommend or endorse any one specific model” (Bradley, Danielson, & Doolittle, 2007). Although there is not a standardized model for MTSS, RTI, or PBIS, essential components and core features exist and must be implemented with fidelity regardless of the approach. Essential components and core features include: (a) high quality, research-based classroom instruction; (b) universal screening/ongoing student assessment; (c) continuous progress monitoring; (d) research-based tiered instruction matched to student needs; (e) progress monitoring of interventions; (f) parent involvement; and (g) fidelity measures. Most importantly, decisions about moving forward with services are based on how the student responded to research-based interventions.

Regardless of the level of support (i.e., Tier 1, Tier 2, or Tier 3) or the core features of each model, teachers need adequate training before any level of support produces positive student outcomes (Garet et al., 2008; Harris & Sass, 2011; Jacob & Lefgren, 2004). Without adequate training, teachers are more likely to experience low levels of teacher efficacy as it relates to managing classroom behaviors and implementing interventions, which ultimately leads them to abandon the intervention entirely (Nese et al., 2016). However, when teacher needs are met by providing them with the training, consultation, and overall support, implementation of effective behavioral management practices and interventions in their classrooms is much more likely (Ross, Romer, & Horner, 2012). Currently, the majority of intervention programs delivered in schools are often delivered via lecture, handouts, role-play, and/or modeling (e.g., Incredible Years-Teacher Program; Webster-Stratton, Reid, & Stoolmiller, 2008) and do not provide adequate training and support for teachers to correctly implement the programs within their classrooms (Blondin et al., 2012; Donaldson, Vollmer, Krous, Downs, & Berard, 2011; Webster-Stratton et al., 2008). None of the



current large-scale, school-based behavioral interventions include tailored in-vivo coaching with immediate performance feedback and targeted skills to meet the needs of the teacher and classroom.

Therefore, research on effective childhood behavioral interventions outside the school setting has recently been examined to identify a robust, evidence-based treatment model which could be adapted for the classroom setting. A well-known, empirically-supported parent training program that includes the necessary supports (i.e., live skills coaching, immediate performance feedback, and tailored in-vivo coaching) is Parent-Child Interaction Therapy (PCIT; Callahan, Stevens, & Eyberg, 2010). PCIT was designed for children ages 2-7 who display disruptive behavior problems and is delivered in two phases: (1) the Child-Directed Interaction (CDI) Phase; (2) and the Parent-Directed Interaction (PDI) Phase. Each phase begins with one didactic or “Teaching Session” where PCIT skills are introduced, explained, modeled, and role-played with the caregiver(s). Teaching sessions are followed by *in vivo* coaching sessions where therapists use prompting, modeling, reinforcement, and selective attention to shape each caregiver’s acquisition and refinement of PCIT skills (Brinkmeyer & Eyberg, 2003).

A long series of studies have demonstrated the model’s effectiveness in decreasing child disruptive behaviors (e.g., Danko, Garbacz, & Budd, 2016; Eisenstadt, Eyberg, McNeil, Newcomb, & Funderburk, 1993; Lanier, Kohl, Benz, Swinger, & Drake, 2014; McNeil, Capage, Bahl, & Blanc, 1999), increasing child compliance with parental requests (e.g., Cooley, Veldorale-Griffin, Petren, & Mullis, 2014; Eyberg & Robinson, 1982), improving the parent-child relationship (e.g., Cooley, Veldorale-Griffin, Petren, & Mullis, 2014; Eyberg, Boggs, & Algina, 1995), and reducing parental stress (e.g., Cooley, Veldorale-Griffin, Petren, & Mullis, 2014; Schuhmann, Foote, Eyberg, Boggs, & Algina, 1998). Follow-up studies, evaluating the maintenance of treatment gains made during PCIT have demonstrated lasting benefits. For example, Boggs and colleagues (2004) found that families who completed PCIT maintained gains in both child and family functioning for one to three years post-treatment.

Given the demonstrated success of PCIT in reducing problematic behaviors in children and improving parenting practices, it is no surprise that PCIT has recently been adapted for use in school settings (Campbell, 2011; Filcheck et al., 2004; Lyon et al., 2009; McIntosh, Rizza, & Bliss, 2000). The adaptation of PCIT within the classroom is called Teacher-Child Interaction Training (TCIT). The term “TCIT” has been used to describe services ranging from infrequent/unstructured discussions with a teacher (i.e., teacher consultation) to manualized programs with systematic implementation and evaluation. Significant variations even exist among the formal models of TCIT as they were independently developed at different settings. The TCIT-Comprehensive Program (TCIT-C), developed by Campbell and colleagues (2018), is a manualized model that incorporates tailored in-vivo coaching with immediate performance feedback and targeted skills to meet the needs of the teacher and classroom. TCIT-C was designed to improve social, emotional, and behavioral competence of children, and increase teacher-efficacy and job satisfaction. The TCIT-C Program was initially pilot-tested with a Head Start population for feasibility (in 2008), followed by open trial (in 2010), and later a roll-out design study (in 2013). Overall, findings suggested that Head Start teachers were able to master the skills in the training room and generalize them to the classroom environment (Campbell, 2011). In addition, Head Start teachers reported increased efficacy and job satisfaction after completing the TCIT-C program.

Similar to the standard PCIT model, TCIT-C is delivered in two phases: (1) a Child-Directed Interaction (CDI) Phase that provides the foundation of the program by developing and strengthening positive teacher-child relationships; and (2) a Teacher-Directed Interaction (TDI) Phase that is designed to enhance behavior management strategies. Additionally, the TCIT-C program is comprised of didactic, teaching sessions where the skills are introduced and role-played, as well as subsequent in-vivo coaching sessions to facilitate the mastery of skills. In fact, the TCIT-C professional manual was carefully created to meet the specialized needs of the classroom environment, but still retain the core principles and goals of PCIT. Equally important, the TCIT-C program incorporates the core principles utilized in multi-tiered approaches such that all children

within the classroom participate in the intervention (Tier 1). Teachers also acquire and complete daily skills homework with small groups of students (Tier 2). Moreover, teachers are provided with behavior management skills and strategies to address significant behavioral problems (e.g., destruction, physical aggression) that often require individualized support (Tier 3). TCIT-C has demonstrated potential success in Head Start settings and may serve to address the problems of adequate training in the classrooms (Campbell, 2011). However, more research in additional school-based settings is needed.

### **Purpose of the Proposed Study**

As stated above, the TCIT-C program was initially pilot-tested for feasibility, followed by open trial and roll-out design outcomes with Head Start populations. The proposed study takes the next step in this line of research by conducting a controlled trial within a Kindergarten setting.

**Primary Question #1: are Kindergarten teachers able to demonstrate, at a mastery level criteria, positive teacher-child interaction skills in a training room environment with both individual and small groups of children?**

**Primary Question #2: are Kindergarten teachers able to demonstrate, at a mastery level criterion, behavior management skills in a training room environment with both individual and small groups of Kindergarten students?**

Teachers' acquisition of both positive interaction skills and behavior management skills in the training room will be observed and assessed using the Student-Teacher Interaction Coding System (STICS).

**Primary Question #3: will teachers utilize the positive teacher-child interaction skills they acquired in the training room in their classroom environment?**

**Primary Question #4: will teachers utilize behavior management skills they acquired in the training room in their classroom environment?**

Teachers' generalization and maintenance of both positive interaction skills and behavior management skills within the classroom environment will be observed and assessed using the Student-Teacher Interaction Coding System (STICS).

*Secondary Research Questions for the Proposed Study*

This study also includes two secondary, or exploratory, research questions. The data analytic approach for addressing these questions is described below. Secondary Question #1 will explore converging evidence for the TCIT-C intervention, and investigate whether changes reported on teacher assessment measures match the behavior changes observed in the classroom. Secondary Question #2 will explore whether teachers' perceptions of efficacy, stress, and satisfaction improve as a function of participation in the TCIT-C intervention.

**Secondary Question #1: Do Kindergarten teachers report improved social and behavioral competence for Kindergarten students following the TCIT intervention?**

**Secondary Question #2: (a) do Kindergarten teachers report increased self-efficacy after learning positive interaction and behavior management skills from the TCIT-C intervention; (b) do Kindergarten teachers report increased overall job satisfaction after learning positive interaction and behavior management skills from the TCIT-C intervention; (c) do Kindergarten teachers report decreased stress related to teaching after learning positive interaction and behavior management skills from the TCIT-C intervention?**

## CHAPTER II

### REVIEW OF LITERATURE

**Prevalence of behavioral problems in schools.** Schools are under immense pressure to provide a safe and effective learning environment for all students. However, research suggests that behavioral difficulties in the public education system are on the rise (Snyder, de Brey, & Dillow, 2016). Prevalence rates for children with behavior problems in the U.S. consistently range between 10% and 30% (Lavigne et al., 1998; Qi & Kaiser, 2003; West, Denton, & Germino-Hausken, 2000). Problematic behaviors can range from levels that are developmentally appropriate (e.g., noncompliance to test limits for preschool/kindergarten age children) to levels that indicate the presence of a Disruptive Behavior Disorder (DBD) (e.g., pervasive noncompliance or aggression). Further, DBDs in young children have been linked to a variety of long-term behavioral and emotional concerns (Loeber, Burke, & Pardini, 2009).

Disruptive behaviors include four dimensions, noncompliance, aggression, temper loss, and low concern for others (Wakschlag et al., 2012). The Diagnostic and Statistical Manual of Mental Disorders-Fifth Edition (DSM-5; American Psychological Association [APA], 2013) presents a long list of disorders that can be categorized as DBDs. Of these disruptive behavior disorders, ODD is most likely to be diagnosed in young children (e.g., preschool and kindergarten age). According to the DSM-5, the onset of ODD usually occurs in preschool while symptoms of CD most often emerge during middle childhood, but can appear in preschool aged children (APA, 2013).

Although disruptive behaviors can appear and impair the functioning of children as young as two years old, diagnosing children at this young age can be particularly difficult. However, 1-11% of the population has a diagnosis of ODD and prevalence rates for CD ranging from 2-10% (APA, 2013). The 2011-2012 National Survey of Children's Health (NSCH), surveyed over 95,000 families in the United States, found the prevalence rate of a behavioral or conduct problem was 3.38% (Centers for Disease Control and Prevention [CDC], 2013a). This percentage is comparable to the published prevalence (3.5%) for the 2007 NSCH (CDC, 2009). Notably, 4.6% of children ages 3-17 years old had a history of ODD or CD and 1.3% of those children with behavior and conduct concerns were preschool or kindergarten age (i.e., 3-5 years old; CDC, 2013b).

**Educational Classifications.** Individuals with mental health diagnoses are classified under the DSM-5 in clinical practice (APA, 2013). However, individuals with Disabilities Education Act (IDEA, 2004) provides services for students in an educational setting who display a disability that results in functional impairment. IDEA mandates that states provide special education services for students who meet criteria for one of the fourteen categories (i.e., Autism, Deaf-Blindness, Deafness, Emotional Disturbance, Hearing Impairment, Intellectual Disability, Multiple Disabilities, Orthopedic Impairment, Other Health Impairment, Specific Learning Disability, Speech or Language Impairment, Traumatic Brain Injury, Visual Impairment Including Blindness, and Development Delay). Children with DBDs may qualify for services under the Emotional Disturbance (ED) category.

The specific criteria to qualify under each IDEA category are determined by each individual state. The Oklahoma State Department of Education defines ED as: "Students with an emotional disturbance have a condition exhibiting one or more of the following characteristics over a long period of time, and to a marked degree, that adversely affects his or her educational performance: (a) an inability to learn that cannot be explained by intellectual, sensory, or health factors; (b) an inability to build or maintain satisfactory interpersonal relationships with peers and

teachers; (c) inappropriate types of behavior or feelings under normal circumstances; (d) a general pervasive mood of unhappiness or depressions; or (e) a tendency to develop physical symptoms or fears associated with personal or school problems. The term does not include students who are socially maladjusted unless it is also determined they have an emotional disturbance” (OSDE-SES, 2017, p. 87).

**Comorbidity.** Individuals diagnosed with DBDs often display high levels of comorbidity with other disorders (e.g., ADHD). Maughan and colleagues (2004) reported that 36% of females and 46% of males diagnosed with ODD met the criteria for additional DSM diagnosis. Attention Deficit/Hyperactivity (ADHD) being the most common comorbid condition in a sample of youth under 15 (Maughan, Rowe, Messer, Goodman, & Meltzer, 2004). Furthermore, a diagnosis of ODD in early childhood (i.e., childhood-onset) is often a precursor to CD. Children diagnosed with ODD before the age of seven often meet the criteria for CD by the time they turn 15 years old (i.e., 57% of females and 60% of males; Maughan et al., 2004). Additionally, low academic achievement for children with CD is not uncommon and many meet the criteria for a Specific Learning Disability or a Communication Disorder, as young children who present with multiple diagnoses have higher levels of impairment (Egger & Angold, 2006).

Given the high percentage of comorbid conditions, students with DBDs may meet the criteria under other special education categories as well. For example, those with comorbid DBD and ADHD may qualify for services under Other Health Impairment (OHI), while those with learning delays may qualify under Specific Learning Disability (LD) category. Depending on the symptomology the student exhibits at school, children with DBDs often qualify for special education services under various categories, including ED, OHI, and LD. It’s important to note, that students who qualify for ED are often diagnosed with a DBD. However, not all children who receive services for ED are diagnosed with DBD, much of the criteria overlaps. These classifications or categories are often only distinguished by the setting discussed.

## **Longitudinal Data Examining the Trajectory of Untreated Behavioral Problems**

Given the number of children exhibiting behavior problems, challenging behaviors in the classroom are on the rise (U.S. Department of Education, 2007). Historically, teachers report disruptive behaviors as one of the single greatest challenges they face in providing quality programming (Arnold, McWillaims, & Arnold, 1998; Wheatley et al., 2009), and identify behavioral intervention training as one of their most significant professional development needs (Joseph, Strain, & Skinner, 2004). Instead, an alarming number of schools are suspending students at a rate of 3.3 million students a year and majority of these suspensions are for minor misbehavior, including disruptive and insubordinate behavior (Skiba et al., 2006). A review of exclusionary and zero-tolerance disciplinary policies by the American Psychological Association (APA) in 2006 found no evidence that the use of suspension, expulsion, or zero-tolerance policies resulted in improved student behavior or increases in school safety (Skiba et al., 2006). Without early intervention, research has consistently shown that students who display chronic disruptive behaviors may be at-risk for several adverse outcomes during their education, including loss of time for academic lessons and potentially academic failure, school absences, teacher conflict, expulsion, and eventually school drop-out, delinquency, substance abuse, and violence (Campbell, 1995; Dodge, 1993; Lewis, 2001; Snyder, 2001; Webster-Stratton & Taylor, 2001).

**Patterns of children with disruptive behavior.** Many children with persistent behavior problems demonstrate difficult temperaments as infants, exhibit below average intelligence, and have poor peer relations (American Psychiatric Association, 2013). Poor interactions at an early age most likely occur with children and their parents in the home setting. Further, parent perception of the child as a problem, low socioeconomic status, male gender, and ineffective parenting strategies are all predictors of conduct problems in young children (McMahon, Wells, & Kotler, 2006). Often, parents display behaviors that are coercive, irritable, and ineffective which may contribute to the development of conduct problems (Patterson, Reid, & Dishion, 1992). Additionally, disruptive behavior patterns likely arise when parents use harsh, punitive,



and inconsistent parenting practices. A pattern of coercive behaviors from both the parent and child can potentially develop when the parent withdraws requests in response to the child's escalating demands. In response to the escalating behavior, parents respond with harsh discipline practices. When this cycle occurs, the parent is reinforced for using punishment when the child temporarily concedes, providing mutual training for the child's inappropriate behavior and harsh discipline on the parent's part (Eddy, Leve, & Fagot, 2001; Patterson et al., 1992). Overtime, the characteristics of the parent-child interaction shape the child's working relationships (i.e., the child comes to expect punishment, conflict, and rejection).

**Impact of behavioral problems on the classroom.** In the elementary grades, classroom teachers are arguably the most important adults at school for the majority of students. Leaving them to play a critical role in proactively teaching and reinforcing appropriate behaviors (Epstein, Atkins, Cullinan, Kutash, & Weaver 2008). However, as these students (i.e., children exhibiting chronic behavioral problems) enter school, this coercive cycle (described above) extends to teachers, decreasing the child's ability to benefit from positive opportunities presented in the classroom (Burke, Oats, Ringle, Fichtner, & DelGaudio, 2011). Further, managing inappropriate behavior and classroom disruptions is time-consuming and takes away from instructional time and student engagement in academic tasks (Riley, McKeivitt, Shriver, & Allen, 2011), with 43% of public-school teachers reporting that student misbehavior interfered with their teaching (U.S. Department of Education, 2016). Moreover, teachers are typically presented with one or two students who are exhibiting persistent behavior problems. However, when a number of students in one given classroom demonstrate such behaviors, it can create a chaotic environment that not only impacts the learning of one student, but can impede the learning of all students (i.e., 56% of students reported that distractions by other students detract their learning; Epstein et al., 2008; Lewis, 2001; U.S. Department of Education [USDOE], 2005). When this occurs, often times teachers have exhausted their classroom management strategies leaving the academic environment at risk.

Alternatively, schools and teachers can exert positive influences on students despite conditions in the home, social status, gender, race, or ethnicity (McEvoy & Welker, 2000). Approaches aimed at improving school and classroom environments, including reducing the negative effects of disruptive behaviors, can enhance the chances that effective teaching and learning will occur, both for the students exhibiting problems behaviors and for their classmates (Epstein, et al., 2008). For example, positive teacher-student interactions is a core strategy recommended by What Works Clearinghouse to modify the classroom environment and instructional factors to improve student behavior in an elementary classroom (Epstein et al., 2008). Additionally, associations have been found between positive interactions with teachers and increases in students' social skills, emotional regulation, motivation, engagement, cooperation with classroom rules, expectations, and academic performance (Greenberg et al., 2003; Hamre and Pianta, 2005; Pianta, La Paro, Payne, Cox, & Bradley, 2002; Solomon, Watson, Battistich, Schaps, & Delucchi, 1992; Wentzel, 2003; Zins, Bloodworth, Weissberg, Wahlberg, 2004). While increases in students' risk for school failure have been associated with negative student-teacher interactions (Hamre and Pianta, 2005).

Just as poor academic performance can reflect deficits in specific academic skills, some students' failure to meet behavioral expectations reflects deficits in specific social or behavioral skills. Similar to how explicit instruction can help students overcome some academic deficits, explicit instruction can help students learn the positive behaviors and skills they are expected to exhibit at school (Epstein, et al., 2008). Implementing evidence-based classroom management practices may in the long-term decrease antisocial behavior in youth and improve the classroom environment (Reinke & Herman, 2002). These practices include establishing and maintaining clear expectations for behavior, actively supervising student behavior, providing opportunities to respond, praising students for appropriate behavior, and giving error corrections for inappropriate behavior. Overall, considerable research has found that these strategies can reduce disruptive behavior (Curby, Rimm-Kaufman, 2013; Ialongo, Poduska, Werthamer, & Kellam 2001; Kellam,

Ling, Merisca, Brown, & Ialongo, 1998; Simonsen et al., 2008), and enhance academic achievement, school readiness, and students' social competence (Burke et al., 2011). However, many teachers fail to implement effective strategies due to lack of knowledge, teacher's philosophical views, time demands, and the availability of professional development in the classroom management practices (Simonsen, Fairbanks, Briesch, Myers, & Sugai, 2008). Moreover, many pre-service teacher training programs do not adequately prepare teachers in classroom management practices (Begeny & Martens, 2006), and traditional models of professional development (e.g., training without follow-up) are often ineffective (Fixsen, Naoom, Blase, Freidman, & Wallace, 2005; Kinkead, 2007).

### **Evidence-Based Classroom Management Practices**

As previously stated, evidence-based classroom management practices and interventions can reduce behavior problems in the classroom and increase academic learning time. Simonsen and colleagues (2008) conducted a search in an effort to identify evidence-based classroom management strategies that were evident in the literature. Criteria for the search was similar to the criteria What Works Clearinghouse (WWC) uses (U.S. Department of Education, 2005). To be considered evidence-based, practices were (a) evaluated using sound experimental design and methodology; (b) demonstrated to be effective; and (c) supported by at least 3 empirical; studies published in peer-refereed journals. While the literature search produced 20 general practices that met the criteria. Of particular relevance to the proposed study are (1) maximize structure and predictability; (2) post, teach, review, monitor, and reinforce expectations; (3) specific/labeled praise; (4) differential reinforcement; (5) planned ignoring plus contingent praise and/or instruction of classroom rules; and (6) time out from reinforcement.

**Maximize structure.** Structure refers to the amount of teacher directed activity, explicit definitions of routines that are age appropriate, and the physical arrangement of the classroom. High structured classrooms provide students with the opportunity to exhibit greater task involvement (Morrison, 1979), positive peer interactions, more attentive behavior (e.g., paying

attention during instruction time), and an increase in prosocial behaviors (e.g., cleaning up, less aggression; Susman, Huston-Stein, & Friedrich-Cofer, 1980). Additionally, the physical arrangement of the classroom may impact student behavior. Research indicates that crowding can have a negative impact on behavior (Maxwell, 1996). Thus, classroom design and layout are critical. Burgess and Fordyce (1989) found that when children had more space, they increased their interactions with peers, teachers, parents, and increased their interpersonal distances. Moreover, minimizing distractions with visual dividers have been to be associated with less teacher distraction, less student distraction, less restriction of classroom activities, and improving behaviors (Ahrentzen & Evans, 1984). However, altering the structure of the classroom may not always be possible but the layout or design of the classroom can be modified. Weinstein (1977) demonstrated that making changes to the classroom design led to a more even distribution of students throughout the locations in the classroom and an increase in the amount of appropriate and engaged behaviors being performed.

**Post, teach, review, monitor, and reinforce expectations.** Identifying and defining a few positively stated expectations that are broad enough to capture all desired behavior (e.g., Be Safe, Be Responsible, Be Respectful) is the first step in establishing classroom expectations. After expectations have been defined, they should be clearly posted and explicitly taught to students. Expectations should be reviewed regularly and actively supervised by the teacher. For example, the teacher should be moving, looking around, interacting with students, correcting behaviors that are inconsistent with expectations, and most importantly, providing reinforcement for behavior that is consistent with expectations (Colvin, Sugai, Good, & Lee, 1997). As active supervision has been shown to positively impact student behavior in classroom and non-classroom areas (e.g., hallways; Simonsen et al., 2008). Further, Colvin and colleagues (1997) found that the degree of active supervision accounted for the most variance in the problem behavior in non-classroom settings, not the supervisor to student ratio. Research also suggests

that pairing rule instruction with feedback and reinforcement leads to the largest gains (Greenwood, Hops, Delquadri, & Guild, 1974).

**Specific praise.** Specific, contingent praise is one of the simplest and most empirically validated classroom management practices used in the school setting (Hester, Hendrickson, & Gable, 2009; Simonsen et al., 2008; Zimmerman & Zimmerman, 1962). Specific, contingent praise is a positive statement, typically provided by the teacher, when a desired behavior occurs. This allows the student to know what specifically they did well. Contingent attention has been shown to have a positive effect on student achievement, which requires the student to produce something in order to receive verbal attention from a teacher (McVey, 2001). Further, delivering contingent praise for academic behavior increased students (a) correct responses (Sutherland & Wehby, 2001); (b) work productivity and accuracy (Craft, Alber, & Heward, 1998); (c) language and math performance (Good, Eller, Spangler, & Stone, 1981); and (d) academic performance (Good, et al., 1981). Madsen and colleagues (1968) found that delivering praise to students during or immediately after they engage in appropriate behavior increases the likelihood that the behavior will happen in the future. Specifically, delivering contingent praise for appropriate social behavior increased participants' (a) on-task behavior (Ferguson, & Houghton, 1992); (b) student attention (Brodén, Bruce, Mitchell, Carter, & Hall, 1970); (c) compliance (Wilcox, Newman, & Pitchford, 1988); (d) positive self-referent statements (Phillips, 1984); and (e) cooperative play (Serbin, Tonick, & Sternglanz, 1977). Generally, providing specific and contingent praise and establishing classroom expectations can increase the likelihood of appropriate classroom behavior.

**Differential reinforcement.** Differential reinforcement is contingent reinforcement when a student engages in (a) low rates for problematic behavior; (b) behaviors other than undesired behaviors (i.e., differential reinforcement of other behavior; DRO); (c) an alternative behavior (i.e., differential reinforcement of alternative behavior; DRA); or (d) an incompatible behavior (i.e., a behavior that is physically impossible to emit at the same time as the undesired

behavior). These specific strategies, increase the likelihood of desired behaviors occurring in the future and decrease the likelihood of unwanted behaviors (Deitz, Repp, & Deitz, 1976; Didden, de Moor, & Bruyns, 1997; Zwald, & Gresham, 1982). Specifically, reinforcers are withheld following occurrence of the target behavior or for some alternative response. Two common approaches to differential reinforcement include DRO and DRA. DRO includes delivering a reinforcing stimulus when a particular response is not emitted for a specific interval of time (Reynolds, 1961). The effectiveness of DRO procedures for reducing the occurrence of problem behavior has been demonstrated by a number of studies (Konczak & Johnson, 1983; Mazaleski et al., 1993; Repp et al., 1974). DRA includes withholding the reinforcer that is maintaining a problem behavior following its occurrence and providing that reinforcer contingent upon the occurrence of a desired alternative behavior (Volmer & Iwata, 1992). DRA-based interventions are designed to reduce a problem behavior while simultaneously increasing the occurrence of an appropriate replacement behavior. The effectiveness of DRA has also been shown across multiple studies (Beare, Severson, & Brandt, 2004; Lucas, 2000; Volmer, Roane, Ringdahl, & Marcus, 1999).

**Planned ignoring.** Planned ignoring occurs when a teacher systematically withholds attention from (ignores) a student when she or he exhibits undesired behavior. Planned ignoring, used correctly, can assist students in discriminating between appropriate and inappropriate behavior (Hester et al., 2009). However, in order for planned ignoring to be effective in reducing minor misbehavior, the teacher must first confirm that teacher/adult attention is reinforcing to the child. Thus, planned ignoring is an extinction procedure designed to weaken, decrease, or eliminate a behavior. This is done by abruptly withdrawing or terminating the reinforcer that is maintaining the behavior (Sheuermann & Hall, 2008). Further, when planned ignoring is used in combination with other strategies (e.g., establishing rules and praising appropriate behavior) increases in appropriate social behavior are more likely to occur (Hall, Lund, & Jackson, 1968). However, it is important for teachers to remove the reinforcer that is maintaining the behavior,

ignoring a target behavior will only decrease behavior if attention is the reinforcer (Alberto & Troutman, 2009).

**Time out from reinforcement.** Time-out from reinforcement is a behavioral intervention or strategy that has been shown to be effective, when implemented correctly, in decreasing challenging behaviors students display. Time out procedures decrease behavior by denying a student the opportunity to receive reinforcement for a fixed period of time (Alberto & Troutman, 2009). However, time-out procedures are defined in several ways throughout the literature. Cooper, Heron, and Heward (2007) defined time-out as “the withdrawal of the opportunity to earn positive reinforcement or the loss of access to positive reinforcement for a specified time, contingent on the occurrence of a behavior” (p.357). Moreover, time out from reinforcement is employed when a student is actually removed from the immediate environment that is reinforcing (e.g., playing with peers) to a less reinforcing environment (e.g., empty classroom, corner in classroom), contingent upon undesired behavior (e.g., throwing toys). In order for time out to be effective, “time in” must be more reinforcing to the child than “time-out”. Additionally, a critical component of implementing an effective time out procedure is consistency (i.e., the child knows what to expect when undesired behaviors are performed; Alberto & Troutman, 2009 ).

### **Early Intervention of Social and Behavioral Problems**

Given the high risk of negative, life-long outcomes for children who display disruptive behaviors in early childhood, not only are evidence-based classroom management practices necessary, they are imperative to include as prevention and early intervention (Kellam & Langevin, 2003). Walker and colleagues (1996), presented a model with three levels of interventions, increasing the intensity as the need to address challenging behaviors increases. This multi-tiered service delivery model is being used and implemented in schools across the country (Sullivan & Long, 2010). Several frameworks that incorporate a multi-tiered approach

and are currently being used in school systems (i.e., MTSS, RTI, PBIS). All models use the same framework of Universal Support (Tier1), Targeted Supports (Tier 2), and Intensive Supports (Tier 3).

**Universal supports and practices.** Each framework begins with Universal Support (Tier 1) in which students receive high-quality, scientifically based instruction in order to ensure that difficulties are not due to inadequate instruction (Walker, Ramsey, & Greshman, 2004). All students are screened periodically to establish an academic and behavioral baseline and to identify students who are struggling and may need additional support (Sugai, Horner, & Gresham, 2002). That is, all students should receive Tier 1 instruction or support in the same manner, under the same conditions, and just as often as their peers (Walker, Ramsey, & Greshman, 2004). Students who are identified as being at risk receive supplemental instruction during the school day in the regular classroom. Student progress should be closely monitored to next steps can be determined. Students showing significant progress return to regular classroom instruction only. Students not showing adequate progress are moved to Tier 2 (Sugai, Horner, & Gresham, 2002; Walker, Ramsey, & Greshman, 2004).

**Targeted supports.** Students not making adequate progress in the regular classroom (Tier 1) are provided with targeted increasingly intensive interventions (Sugai et al., 2002). Targeted/Tier 2 services should match the student needs based on performance and rates of progress. Intensity, frequency, and duration of the intervention vary across group size. However, an intervention for a specific skill or behavior should be provided and delivered in a small group setting in addition to instruction in the curriculum (Tier 1). The goal of targeted interventions is to change the antecedent and/or consequence that is likely the root of the problem behavior or remediate a specific skill deficit (Sugai, Horner, & Gresham, 2002).

**Intensive supports.** About 1-5% of a school population will display significant challenges and require intensive supports. At Tier 3, students should be receiving individualized, intensive interventions that target the students' skill deficit(s) or problem behavior in addition to



Tier 1 and Tier 2 services. Students who do not achieve the desired level of progress in response to intensive intervention are often referred for a comprehensive evaluation and considered for eligibility for special education services.

### **School-Based Prevention/Intervention Programs for Kindergarten.**

Research has found that students who engage in problematic behaviors that distract other students and interrupt academic instruction often results in frequent disciplinary actions and often begins in preschool (Hawken & Johnson, 2007; Sterling-Turner, Robinson, & Wilczynski, 2001). In a multi-site early childhood longitudinal study, over 75% of kindergarten teachers (N = 3,305) rated compliance and non-disruptive behavior as highly important and “essential” while only 20% of the sample rated alphabet and number knowledge was rated as essential (Lin, Lawrence, & Gorrell, 2003). Moreover, data suggests that preschool age students who engage in problem behavior are likely to continue to display this behavior in primary school (Hawken & Johnston, 2007). Shaw and colleagues (2000), found that that 30% of children who displayed aggressive behavior at age 5 were still engaging in aggressive behavior at age 14, indicating that an effective way to prevent severe problematic behavior from occurring in the future is to provide early intervention (Hawken & Johnson, 2007). Therefore, decreasing disruptive behaviors and increasing the social skills repertoire of young children should be a priority for interventionists.

**The Color Wheel System (CWS).** Recently, researchers have investigated an alternative approach to classroom rules. The CWS provides multiple sets (e.g., three to four sets) of rules that are differentiated based on activity. Students are made aware of which set of rules is in effect by the presence of a color wheel (i.e., a visual indicator that includes a red, yellow, and green wedge). The color wheel is rotated to show which rule set is in effect. Each rule set includes three to five rules that provide specific behavioral expectations for a particular activity (e.g., independent seat work, small group, free time, transition times; Blondin et al., 2012; Skinner & Skinner, 2007). In addition to specific rules for different classroom activities, the CWS includes efficient procedures for changing rules as the class transitions from one activity to

another (Skinner, Scala, Dendas, & Lentz, 2007). Specifically, to indicate a transition, the teacher provides temporal warnings (i.e., “in 2 minutes the color wheel will be turned to red”). Warnings are designed to allow students to finish what they are working on and prepare for the next activity (e.g., clear desk, eyes on speaker).

Applying classroom rules or expectations as a means to prevent undesired, disruptive behavior is well stated in the literature. However, some research suggests that classroom rules should include one set of three to five rules that set expectations across all activities (Buck, 1999; Heins, 1996; Malone & Tietjens, 2000) instead of one set of rules that is applied across activities. As there are limitations to applying one set of rules that are applied continuously and across all activities (e.g., Blondin, Skinner, Parkhurt, Wood, & Snyder, 2012; Skinner, Scala, Dendas, & Lentz, 2007). Broad rules designed to set expectations across the entire day, are often vague and provide little information about the expected desired behavior (Fudge, Reece, Skinner, & Cowden, 2007). It is also difficult to install one set of rules that clearly specify behavioral expectations in an environment where students are engaged in a variety of activities, each with different behavioral expectations (Skinner & Skinner, 2007). For example, “keep hands to self” or “keep seat in seat” are not reasonable rules when a kindergarten classes commonly play games (e.g., duck-duck-goose).

Previous research suggested that the CWS may reduce inappropriate behavior with Kindergarten students (Below et al., 2008; Hautau, Skinner, Pfaffman, Foster, & Clark, 2008). However, procedures in these studies did not control for internal validity (Skinner & Skinner, 2007). Watson and colleagues (2016) extended the evidence of the CWS by improving the research design with collection of interobserver agreement and treatment integrity. Notably, the teachers in this study (i.e., Watson et al., 2016) did not request help (e.g., consultation) with managing behaviors in their classroom. While teachers were able to learn quickly and would recommend these procedures to their other teachers, this study only suggests that the CWS is an

effective prevention program and not an intervention program for students exhibiting significant behavioral problem.

**Good Behavior Game (GBG).** Another classroom intervention used to manage student behavior in Kindergarten classrooms is the Good Behavior Game (GBG; Barrish, Saunders, & Wolf, 1969; Donaldson, et al., 2011). The Good Behavior Game (GBG) is a universal intervention that aims at preventing disruptive behaviors and promoting on-task behavior in elementary classrooms (Spilt et al., 2016). There are five steps involved in implementing the game in the classroom. First, teachers need to decide during what period of the day the game will be played (e.g., reading, math, independent seatwork; Poduska & Kurki, 2014). Next, teachers and students work together to clearly define classroom rules and the corresponding behavioral expectations, typically three types of negative behaviors are scored during the game (e.g., leaving seat, talking out, disruptive behavior; Barrish, Saunders, & Wolf, 1969). During step three, teachers decide on rewards that will motivate students to do their best during the game (Poduska & Kurki, 2014). Teams that accumulated the least amount of points (i.e., the team that had the least amount of behavior problems) are rewarded however, more than one team can win (Bowman-Perrott, Burke, Zaini, Zhang, Vannest, 2016). After behaviors have been selected and clearly defined, the game is now introduced to the class (Barrish, Saunders, & Wolf, 1969). During this step, teachers should divide the classroom into groups and show a schedule of when the game will be played. After these four steps, the game is now ready to implemented. Teachers will carry on with their usual instructional routine but they will now be publicly recording negative points acquired by teams. The GBG helps children master the role of student by being able to successfully comply with demands in the classroom (e.g., paying attention and working with others; Poduska & Kurki, 2014). Children create a positive environment by monitoring their behavior and holding their classmates accountable for theirs as well (Poduska & Kurki, 2014). The main goal of the GBG is strengthening the overall classroom environment while teaching children how to be a successful student at an early age.

The GBG has been shown to be effective in its original form but also has support for many modifications. Recently, Donaldson and colleagues (2011), evaluated the GBG with five kindergarten teachers and classrooms. Disruptive behavior decreased in all Kindergarten classroom following implementation of the GBG. Treatment integrity averaged 60% across all five classrooms, which is low but teachers were still able to maintain intervention effects. However, it is important to note that the participating students had a history of playing the GBG with an experimenter before the teachers began playing the GBG. While this study expands on the GBG literature, several limitations exist. It is unknown whether treatment effects (i.e., decrease in disruptive behaviors) would have maintained without the students' prior experience with the GBG. Additionally, the GBG includes several components, evaluating which of the basic principles (e.g., differential reinforcement, reinforcements/rewards, praise) underlies its effectiveness is very difficult (Donaldson et al., 2011). Further, individual data on each student was not collected. Thus, the low rates of disruptive behavior during the GBG make it likely that all or most students who were engaging in disruptive behavior during baseline responded to the intervention, however to what extent behaviors were changed as a result of the GBG is unknown.

**The Incredible Years Teacher Classroom Management Program (IY TCM).** The Incredible Years Teacher Classroom Management Program (IY TCM) is a universal classroom management program for teachers of students in pre-school through third grade. Teachers learn key classroom management skills through discussion, observing of view video recorded examples of classroom situations, role-playing the use of strategies, and verbal and written assignments that are reviewed and returned (Webster-Stratton, Reid, & Stoolmiller, 2004). IY TCM also includes coaching within the training model. After and between each training session, teachers are observed, provided with performance feedback, and assisted with problem solving, goal setting, and implementation of strategies (Reinke et al., 2012).

Recently, Reinke and colleagues (2018) conducted the first randomized control trial of the IY TCM as a stand-alone program for teachers in classrooms kindergarten to third grade on child social behavior and academic outcomes. Results indicated that those in IY TCM classrooms demonstrated a significant reduction on emotional dysregulation and improvements in prosocial behavior and social competence relative to students in control classrooms. However, no significant findings were reported for disruptive behavior or concentration problems. It's important to note that all participating schools were implementing a school-wide behavior support program (PBIS) with high fidelity (Reinke et al., 2018). It is possible that this school-wide universal intervention, that supports student positive behavior, reduced the effects IY TCM had on student behavior at a classroom level. Additionally, although teacher ratings are important in the context of school-based interventions and have been shown to predict social behavioral problems (Koth et al., 2009; Reinke et al., 2008; Schaeffer et al., 2003), it's important to consider that majority of the findings in this study were based on teacher report. Reporting teachers were also recipients of the training to implement IY TCM practices. Which may potentially have impacted ratings as teachers who received training may have rated their students as improved due to the sol fact that they received the IY TCM training (Reinke et al., 2018). Further, while this study did include Kindergarten classrooms, the population and results of the study were not exclusive to the Kindergarten population.

Recently, Fossum and colleagues (2017) invested the IY TCM program with an exclusive kindergarten population in Norway. Results of this study are promising for the kindergarten population, as the IY TCM children showed a more favorable change on every measure than the comparison children did. Thus, IY may lead to reduced aggressive behavior, and attention and social readiness for kindergarten children. While this study revels positive outcomes, important limitations should be considered: (a) limited information on the fidelity and circumstances of the delivery of IY TCM is known; (b) findings are solely based on teacher reports and long-term effects are lacking; (c) no observational data was included in this study; (d) lastly, it is important

to note that this is an international study as generalization to the US population is limited at this time.

### **Selecting Evidenced Based Interventions**

American Psychological Association (APA) defines evidence-based practice in professional psychology as, " ...the integration of the best available research with clinical expertise in the context of patient characteristics, culture, and preferences." (APA, 2006; p. 5). Evidence-based practice in psychology grew out of the evidence-based medicine movement (APA, 2006). In 1993, the APA developed the Division 12 Clinical Psychology Task Force on the Promotion and Dissemination of Psychological Procedures. Additionally, in 1995 a list of empirically-validated psychological treatments were published to inform the public, funding sources, and clinical psychologists. Further, in 1998 The Task Force for Effective Psychosocial Interventions: A Lifespan Perspective reported on individual childhood treatments (Chambless & Hollon, 1998). Since the 1995 list of empirically-validated treatments, other disorder-specific lists for empirically-supported child treatments have emerged (see Honer, Carr, Halle, McGee, Odom & Wolery, 2005; Nathan & Gorman, 2002; and Rogers & Vismara, 2008).

Several empirically-supported family-based treatments exist for young children with a primary concern of disruptive, defiant, and oppositional behaviors (Eyberg, et al. 2008; SAMHSA, 2011). This is likely due to research that psychological disorders of early childhood are influenced by several interacting factors such as heredity, environmental, and contextual factors (Merikanagas, Nakamura, & Kessler, 2009). Specifically, family treatments can address the transactional process among parenting practices, family stressors, and parent mental health (Mash & Barkley, 2006). Kazdin and Whitley (2003). Kazdin and Whitley (2003) assert that treatment of behavioral difficulties is best conceptualized as a family problem. Family-based behavioral interventions fall under the umbrella of "parent training." Parent training, based on operant and social-learning theories, is one of the most researched treatments of childhood

problems such as aggression, tantrums, and noncompliance (Kaat & Lecavalier, 2013; Kazdin, 2005; McMahon, Wells, & Kotler, 2006).

Further, a review of the parent program literature for children with behavior problems was conducted by Shriver and Allen (2008), and they found four empirically-supported programs represented in the literature. These include: (a) *Helping the Noncompliant Child* (McMahon & Forehand, 2003); (b) *The Incredible Years* (Webster-Stratton, 1984); (c) *Living with Children* (Patterson, 1976); and (d) *Parent-Child Interaction Therapy* (Eyberg & Child Study Lab, 1999; Hembree-Kigin & McNeil, 1995). While each program has numerous strengths supported by empirical evidence, Shriver and Allen (2008) offered weaknesses for each program including: (a) *Helping the Noncompliant Child* (McMahon & Forehand, 2003) – the manual focuses on what to teach rather than describing how to teach the suggested skills; (b) *The Incredible Years* (Webster-Stratton, 1984) – the program training and materials are expensive which may decrease the likelihood of practitioners becoming trained – ultimately decreasing dissemination to families; (c) *Living with Children* (Patterson, 1976) – the program is not user friendly for parents, requiring high levels of contact between the practitioner and parents that may potentially seem intrusive to parents and prohibitive to practitioners. However, Shriver and Allen (2008) listed more positive comments about *Parent-Child Interaction Therapy* (Eyberg & Child Study Lab, 1999; Hembree-Kigin & McNeil, 1995) than negative comments, stating that PCIT is immediately appealing to practitioners, cost-effective, and widely disseminated. In addition to the empirically research and positive reviews, PCIT was selected for adaptation in the proposed study for several reasons, including PCIT: (a) is a short-term program typically delivered in 14 sessions – making training more feasible for teachers schedules; (b) is designed for children two to seven years of age – accessing this age group in an elementary school is ideal; (c) has demonstrated success across a broad spectrum of behavioral, emotional and/or developmental problems – ideal for the wide variety of disorders often seen in school settings; (d) has been adapted to meet the needs of special populations across a variety of settings – successful adaptations have already taken place

outside the clinic setting; (e) provides trainees with easy to learn skills that can be applied to all students the teacher interacts with; (f) utilizes a mastery criteria for skills that is easily defined and observable – easy for teachers to understand and acquire skills.

### **Parent-Child Interaction Therapy (PCIT)**

**Theoretical bases and influences.** In the 1970's Sheila Eyberg developed PCIT as a behavioral family approach for the treatment of young children exhibiting disruptive behavior problems. PCIT is a manualized intervention program designed for children ages 2-7 and is one of the most researched, empirically-supported parent training programs for children (Eyberg & Child Study Lab, 1999; Hembree-Kigin & McNeil, 1995; McNeil & Hembree-Kigin, 2010; PCIT International Manual, 2011). PCIT utilizes Constance Hanf's (1969) two-stage model by integrating components of social learning theory, developmental theory, behavioral principles, and traditional play therapy (Eyberg, 1988). PCIT typically involves 9-12 weekly sessions (60-90 minutes) with a trained therapist. The goal of PCIT is to improve the quality of the parent-child relationship by helping parents adopt an authoritative parenting style (Baumrind, 1967), which incorporates a child's needs of warmth, psychological autonomy, and limit setting to achieve optimal outcomes (Gray & Steinberg, 1999). This process occurs through two stages: the Child-Directed Interaction (CD) phase and the Parent-Directed Interaction (PDI) phase (Eyberg, 1988). During the first phase of treatment (Child-Directed Interaction), children are encouraged to lead the play activity while their caregivers follow along and comment on the child's positive behaviors and ignore inappropriate behaviors (Herschell & McNeil, 2005). The CDI phase aims to improve the parent-child relationship by maximizing positive communication during child-initiated play. In the second phase of treatment (Parent-Directed Interaction), caregivers learn to engage with their child by guiding activities with clear and direct commands, rewarding child compliance, and utilizing an effective time-out strategy as a consequence for child



noncompliance (Herschell & McNeil, 2005). The overall goal is to create a supportive environment by enhancing the parent-child relationship with effective communication habits.

Since the development of PCIT, other models have successfully applied the Hanf model to design treatment programs that address disruptive behavior problems (e.g., *Helping the Noncompliant Child* by McMahon & Forehand, 2003; *The Incredible Years* by Webster-Stratton, 2005; *The Conduct Module in the Modular Approach to Therapy of Children with Anxiety, Depression, Trauma, and Conduct Problems* by Chorpita & Weisz, 2009). However, the emphasis on improving the quality of the parent-child relationship differentiates PCIT from other models (Foote, Eyberg, & Schuhmann, 1998). Additionally, the development of the PCIT treatment protocol draws from attachment, social learning theory, and operant learning theories (Herschell, Calzada, Eyberg, & McNeil, 2002). Attachment theory principles used in PCIT focus on helping the parent facilitate a warm, supportive relationship as a basis for the development of social skills and emotional regulation. From a social learning perspective, PCIT addresses behavioral problems by having the parent model calm, desired behaviors during parent-child interactions (Herschell, et al., 2002). Additionally, PCIT incorporates authoritative parenting practices by outlining consistent child-rearing practices – with an appropriate balance between nurturance and appropriate limit-setting (McNeil & Hembree-Kigin, 2010).

**Therapy structure and format.** As noted above, PCIT is delivered as a two-phase treatment model (i.e., Child-Directed and Parent-Directed phases), with progression of treatment dependent upon the caregiver's mastery of core skills. PCIT requires ongoing data collection and begins with preliminary (or baseline) observations of the parent-child interactions. During this baseline observation session known as the "DPICS Session", parents are asked to complete three standard-five minute tasks (i.e., Child Directed Interaction, Teacher Directed Interaction, and Cleanup). The three tasks vary in degree of parent control and task demand on the child. After the initial observation session, each phase begins with a didactic, "teaching" (i.e., CDI Teach and PDI Teach) session where PCIT skills are introduced, modeled, and role-played with the

caregiver(s). Teach sessions are followed by “coaching” sessions where the therapists use prompting, modeling, reinforcement, and selective attention to shape a caregiver’s utilization of PCIT skills (Brinkmeyer & Eyberg, 2003). To help parents master these skills, parents are coached in real-time while they are playing with their child. PCIT is typically conducted with a caregiver and their child in a weekly, 1-hour sessions. The average length of treatment is 14 sessions (i.e., one teaching session and approximately six coaching sessions per phase; Callahan, Stevens, & Eyberg, 2010).

The primary goal of the first phase of PCIT (Child-Directed Interaction or CDI phase) is to make the parent-child interactions more reinforcing for the child. In the CDI phase, caregivers are taught to use selective attention to extinguish certain attention seeking behaviors by ignoring non-aggressive/non-destructive (e.g., whining, temper tantrums) and enthusiastically attending to appropriate behaviors (e.g., sharing, using manners, playing quietly; Herschell & McNeil, 2005). This is accomplished by teaching caregivers how to utilize a specific test of skills (known as the “PRIDE” skills). More specifically, the PRIDE skills teach caregivers how to reward appropriate behaviors, and increase the likely of seeing those behaviors in future through: (*Praise*) recognizing and encouraging prosocial behaviors; (*Reflect*) utilizing active listening and reflect appropriate content to increase verbal communication; (*Imitate*) modeling appropriate behaviors and play; (*Describe*) conveying interest in positive behaviors; and (*Enjoy*) communicating enthusiastically about interactions (Hembree-Kigin & McNeil, 1995).

Additionally, caregivers learn to avoid behaviors that take away (or attempt to take away) the child’s lead (i.e., questions, commands, and criticism). Before progressing to the second phase (i.e., Parent-Directed phase), caregivers must meet CDI mastery criteria without the assistance of the therapist or coach. More specifically, CDI mastery criteria is indicated by a caregiver exhibiting at least 10 labeled praises, 10 behavioral descriptions, 10 reflective statements, and no more than a total of 3 questions, commands, or criticisms with an individual child, demonstrated during a five-minute observation period (Bell & Eyberg, 2002).

The second phase of PCIT is Parent-Child Interaction (PDI). The essence of the second phase of treatment is to teach caregivers to give effective commands and enhance behavior management skills. During the PDI phase, therapists provide caregivers with assistance in managing problematic situations by giving them specific strategies to set consistent and fair limits, follow through with commands in a predictable manner, and provide reasonable, age-appropriate consequences for noncompliance within the context of a positive parent-child relationship (Herschell & McNeil, 2005). Additionally, caregivers learn how to utilize an effective and consistent time-out from positive reinforcement procedure for noncompliance and severe misbehavior. To facilitate real-world mastery of PCIT techniques, an increased emphasis is placed on the generalization of PCIT skills outside the clinic (e.g., shopping mall, grocery store; Callahan et al., 2010).

Similar to the CDI phase, the PDI phase also requires caregivers to master a set of skills. In order for a caregiver to meet PDI mastery criteria they must demonstrate the following: (a) give at least 4 commands, 75% of which must be positive, direct commands; and (b) show at least 75% correct follow-through after delivering effective commands (i.e., labeled praise for compliance, appropriate utilization of the time-out warning/procedures for noncompliance) during a five-minute observation period. Successful completion of the entire PCIT intervention requires that three criteria are met: (a) caregivers demonstrate mastery criteria in both CDI and PDI skills; (b) the child's behavior, as rated on the Eyberg Child Behavior Inventory (described below), is equal to or less than a raw score of 114; (c) the caregiver(s) express confidence in their abilities to appropriately manage their child's behaviors (Callahan et al., 2010).

**Efficacy in clinical settings.** A wealth of efficacy research has been conducted in support of the use of PCIT as a treatment for children demonstrating challenging externalizing behaviors who are ages 2-7. Previous research findings have demonstrated effectiveness in decreasing child disruptive behaviors (e.g., Eisenstadt, Eyberg, McNeil, Newcomb, & Funderburk, 1993; McNeil, Capage, Bahl, & Blanc, 1999), increasing child compliance (e.g.,

Eyberg & Robinson, 1999), improving in the parent-child relationship (e.g., Eyberg, Boggs, & Algina, 1995), and reducing parental stress levels (e.g., Schuhmann, Foote, Eyberg, Boggs, & Algina, 1998). Gallagher (2003) conducted a review of 17 PCIT outcome studies (a total of 368 children who participated in PCIT), and found clinical significance in 82% (14 of 17) of the studies. In those studies, clinical significance was defined by changing behavior problems from clinically significant ranges (pre-treatment) to within normal ranges (post-treatment) and measured by caregiver-reports.

Additionally, Herschell, Calzada, Eyberg, and McNeil (2002) report that although PCIT is effective for children with disruptive behaviors, the principles and techniques can be applied to treat children presenting with comorbid diagnoses (e.g., multiple mental health disorder, medical conditions). Since then, PCIT has been shown to be efficacious for children with co-occurring disruptive behaviors and a history of abuse (Chaffin et al., 2004), children with cancer (Bagner, Fernandez, & Eyberg, 2004), intellectual delays (Bagner & Eyberg, 2007), anxiety disorder (Chase & Eyberg, 2008; Pincus, Santucci, Ehrenreich, & Eyberg, 2008), high-functioning Autism (Solomon, Ono, Timmer, & Goodlin-Jones, 2008).

**Generalization and maintenance of PCIT.** Follow-up studies, evaluating the maintenance and generalization of PCIT treatment gains, have demonstrated long-term and short-term success. For example, the durability of positive parent behaviors (continued use of CDI skills) has been shown to decrease problem behavior in children in a 4-month follow-up study (Bagner, Shienkopf, Vohr, & Lester, 2010; Schuhmann, Foote, Eyberg, Boggs, & Algina, 1998; Eyberg et al., 2011), and two-years post-treatment follow-up (Eyberg, et al., 2011). Additionally, child outcomes have been found to generalize from the controlled clinic setting to the home environment (e.g., Schuhmann et al., 1998), as well as from the home to school classrooms (McNeil, Eyberg, Eisendstadt, Newcomb, & Funderburk, 1991). Eyberg and colleagues (2001) found that treatment gains in the home setting were maintained one- and two-years posttreatment, while McNeil and colleagues (1991) found generalization to the classroom shortly after the

completion of the treatment based on teacher report and direct observation of the children's behavior. Lastly, Hood and Eyberg (2003) found that not only did the parent-child interactions continue to improve, but that mothers' or caregivers who completed treatment maintained their confidence in controlling their child's behavior, three to six years post-treatment.

**PCIT across populations.** PCIT has been successfully adapted and/or implemented with the standard protocol for a wide range of populations. PCIT has been successfully implemented with children who have Developmental Delays (Bagner & Eyberg, 2007), children with Autism Spectrum Disorder (Masse, McNeil, Wagner, & Quetsch, 2016), Separation Anxiety Disorder (Pincus, Choate, Eyberg, & Barlow, 2005), chronic illness (Bagner, Fernandez, & Eyberg, 2004), a history of physical abuse (Chaffin et al., 2004; Urquiza & McNeil, 1996), and those with a history of maltreatment (Fricker-Elhai, Ruggiero, & Smith, 2005). PCIT has also demonstrated success of with nontraditional caregivers such as foster parents and kinship caregivers (e.g., McNeil, Herschell, Gurwitch, & Clemens-Mower, 2005; Timmer, Urquiza, & Zebell, 2006; Mersky, Topitzes, Janczewski, & McNeil, 2015). In addition to a wide population, successful outcomes with a wide range of cultural diverse groups have been reported. This includes, Mexican American (McCabe, Yeh, Garland, Lau, & Chavez, 2005), American Indian and Alaska Native (BigFoot, Funderburk, 2011), Puerto Rican (Matos et al., 2006), Chinese (Leung, Tsang, Sin, & Choi, 2015), Norwegian (Bjorseth & Wormdal, 2005), Australian (Nixon, Sweeney, Erickson, & Touyz, 2003; Phillips, Morgan, Cawthorne, & Barnett, 2008), and Taiwanese families (Chen, Fortson, 2015).

**Standard versus adaptations.** Previous studies have compared standard PCIT and an abbreviated version of PCIT. In a study by Nixon and Colleagues (2003) standard PCIT was compared to an abbreviated version of PCIT. In abbreviated version consisted of the families viewing instructional videos in the home and participated in telephone consultations with a trained PCIT therapist, compared to a waitlist control condition. The results of this study showed that, parents who received standard PCIT and those who received the abbreviated version showed

significantly greater reductions in reported parenting stress and improvements in disciplinary practices when compared with the waitlist control group. More recently Graziano and colleagues (2015) developed a brief and intensive format of PCIT that suggests promising results. The pilot study examined the feasibility, acceptability, and initial outcomes of a condensed version of PCIT (90-minute sessions, for 5 days over the course of 2 weeks). Results across both mother report and observations showed that: treatment was effective in reducing externalizing behavior problems, improved parenting skills, and decreasing parenting stress. In both abbreviated version of PCIT, treatment gains were maintained (Graziano et al., 2015; Nixon, Sweeney, & Erickson, 2004).

### **Teacher-Child Interaction Training (TCIT)**

Overall, PCIT is an established treatment that is: (a) theoretically-based and widely applicable and effective across populations; (b) maintained over time in a variety of settings; and (c) delivered based on an empirically supported protocol. Given the demonstrated success of PCIT in reducing problematic behaviors in children and improving parenting practices, Teacher-Child Interaction Training, an adaptation of PCIT for use with teachers, has emerged. Currently, several models and variants of TCIT exist. The following sections will outline the framework underlying TCIT, the current models that exist, research related to the associated outcomes of TCIT, and limitations of the existing models.

***Theoretical framework.*** TCIT aims to help build teacher behavior management skills for students needing intensive interventions for disruptive behaviors in the school setting using the same theoretical underpinnings to elicit behavior change as PCIT. TCIT utilizes the same intervention components (i.e., a child-led phase and an adult-led phase), but the theory of change is simply adapted to fit not only the classroom dynamic but the overall school environment.

Much like coercive cycles seen in family relationships of young children who exhibit externalizing behavior problems (Patterson, 1976), these dynamics can also develop in the classroom. Poor teacher-student relationships can be characterized by conflict that damaging to

the relationship (Howes, Phillipsen, & Peisner-Feinber, 2000) and may result in a punishment paradigm (Maag, 2001). These poor teacher-child relationships can lead to negative short-term outcomes, such as limited academic engaged time (Walker et al., 2003) and expulsion (Gilliam & Shahar, 2006) and long-term negative outcomes such as school dropout (Bradshaw et al., 2010; Hamre & Pianta, 2001).

The primary goal of TCIT is to repair and enhance the relationship between the teacher and child by increasing opportunities for positive interactions. TCIT uses the same sequence of intervention phases as PCIT (i.e., CDI followed by PDI/TDI). The teacher is taught the same relationship-building skills (i.e., the PRIDE skills) and required to master them before moving to the behavior management component of the intervention. The behavior management component of TCIT, teacher-directed interaction (TDI) is parallel to the parent-directed interaction (PDI) phase of PCIT in that it incorporates the same behavioral principles (e.g., differential reinforcement and time-out). However, it is important to note that the delivery of these principles and skills vary by TCIT model.

***Existing models of TCIT.*** To date, two formalized manuals of Teacher-Child Interaction Training models currently exist (i.e., Teacher-Child Interaction Training Comprehensive Program and Teacher-Child Interaction Training – Universal). Additionally, the literature contains a variety of models that range from an intensive intervention with a single student (McIntosh, Rizza, & Bliss, 2000), to a preschool teacher professional development program (Lyon et al., 2009). The models that comprise larger, professional development programs refer to the intervention as Teacher-Child Interaction Training (i.e., TCIT-C and TCIT-U). Below the descriptions are separated into those classified as Teacher-Child Interaction Therapy and Teacher-Child Interaction Training.

***Teacher-Child Interaction Therapy.*** TCIT first emerged in the literature through a case study. McIntosh and colleagues (2000), used a single-subject design with a preschool teacher and a two-year-old child with disruptive and defiant behaviors. The intervention consisted of: (a)

CDI teach session; (b) five, twenty-minute, CDI coaching sessions outside the classroom; (c) TDI teach session; (d) seven, TDI coaching sessions outside the classroom; and (e) two final TDI sessions inside the classroom. In addition to these sessions, the teacher implemented “special time” with the student outside the coaching sessions. During the CDI phase, special time lasted 5 minutes and during the TDI phase it lasted 10 minutes. These one-on-one interactions took place while the child’s peers were involved in other activities (McIntosh et al., 2000). Overall, the data suggested that TCIT had an effect on teacher and student behavior. Specifically, the teacher’s use of positive interaction skills and child compliance increased, and the number of teacher-initiated instructions, along with disruptive behaviors decreased. However, a limitation of this study is that data was only collected for sessions that occurred outside the classroom. Therefore, an evaluation of generalization to the classroom was unable to be measured.

Filcheck, McNeil, Greco, and Bernard (2004) conducted a study that expanded the application of PCIT skills to an entire preschool classroom of 17 children in a primary prevention setting. an ABACC treatment comparison design was utilized with one teacher and the 17 children to examine the effectiveness of two interventions in reducing the amount of inappropriate behavior in a preschool classroom. The Levels System (i.e., whole-class token economy) and both phases of TCIT (i.e., CDI and TDI) were evaluated. The conditions of the intervention and study were as follows: (a) condition A: baseline (eight observations) and withdrawal phases (six observations); (b) condition B: Levels System intervention (28 observations); (c) conditions C and C’: Child-Directed Interaction (seven observations) and Teacher-Directed Interaction (four observations) phases of TCIT (Filcheck et al., 2004). Results suggested that the amount of inappropriate behavior exhibited in the classroom decreased with the implementation of the Level System and decreased further when TCIT was implemented. In addition to decreasing behavior problems, an increase of positive behaviors by the teachers were exhibited (e.g., increased use of praise toward child behavior, and decreased use of critical statements for negative behaviors).



However, results from Filcheck et al. (2004) should be interrupted with caution, as several methodological limitations exist. For example, the Level System was delivered prior to the TCIT intervention and behaviors did not return to baseline before implementation of TCIT. A standardized treatment protocol was not used which often results in inconsistent training and implementation of interventions. Additionally, observations of classroom behaviors were only recorded during one structured classroom activity (i.e., circle time). This makes it difficult to assess whether behavior changes throughout the classroom were related to specific intervention techniques.

In 2006, TCIT was evaluated as a secondary prevention program in four Head Start classrooms (Tiano & McNeil, 2006). Four teachers and 13 children received the training while three teachers and 12 children served as controls. The intervention or treatment group received a two, eight-hour group training workshops. The first workshop focused on CDI skills and the second focused on PDI skills. In addition to the workshops, teachers received in-classroom coaching. Overall, the results indicated that child behaviors improved, fewer time-outs occurred, teachers used less criticism, and rated the overall functioning of their classrooms as more manageable in both conditions but significant differences were not found. The authors of the study reported that “a floor effect occurred that made it difficult to detect any possible effects of treatment” (Tiano & McNeil, 2006, p. 228), as baseline data indicated that disruptive behaviors were already infrequent. However, the study did find that teachers who participated in TCIT training workshops gave significantly more labeled praises at post-treatment compared to teachers in the control condition. It’s important to note that several methodological limitations exist. For instance, the timing of the post-treatment assessment occurred immediately after the skills used to reach that criterion were met for each teacher. Typically, post-treatment measures are not collected until a week after treatment concludes. Additionally, data was only collected on the primary teacher in each classroom, teachers were aware of observers, and the results are based on a single pre-treatment and post-treatment observation.

*Teacher-Child Interaction Training.* Lyon and colleagues (2009) examined TCIT as a primary prevention program using a multiple-baseline design with 12 teachers and 78 children in four classrooms. As previously stated, the models that comprise larger, professional development programs refer to the intervention as Teacher-Child Interaction Training. This was the first study to replace the term Teacher-Child Interaction *Therapy* with Teacher-Child Interaction *Training*. This TCIT model (Gershenson, Lyon, & Budd, 2010) was developed to serve as a Universal Prevention Program (i.e., TCIT-U), as the children in the study were not identified as having significant behavior problems. TCIT-U incorporates five core elements of PCIT: (1) two complimentary phases of treatment, CDI followed by TDI, (2) in-vivo, individualized coaching, (3) five-minute coding intervals at the beginning of each coaching session, (4) daily homework sessions, (5) the use of standardized measures to collect data. However, several adaptations were made which include: (a) standard CDI/PDI skills were altered (e.g., teachers are taught to reduce commands and questions but not eliminate them and the time-out procedure was designed collaboratively); (b) a group training format (e.g., three teachers and two trainers per group); (c) utilization of skills with multiple children at the same time; (d) time-limited versus data-driven approach; (e) in-classroom coaching via an over-the-shoulder technique (Gershenson, et al., 2010; Lyon et al., 2009). Additionally, teachers were taught to use praising other students, physical cues and guidance, the removal of privileges in response to misbehavior, and the time-out procedure was termed “Sit & Watch”.

In the first evaluation of TCIT-U (Lyon et al., 2009), observational data was collected on teacher skills throughout the study. Teacher observations were conducted during a variety of activities (e.g., circle time, lessons, free play) one to two times per week in order to determine the utilization of skills. Results demonstrated that 10 of the 12 teachers improved their use of PRIDE skills and were able to demonstrate proficiency implementing the Sit & Watch procedure. However, the behavioral changes during the CDI phase were more noteworthy than the TDI phase. More specifically, positive behaviors increased from 9% to 19% between baseline and the

CDI conditions but little to no changes occurred during the TDI conditions (i.e., increase from 19% to 20%). Additionally, skills were not maintained at follow-up and a negative slope was found. Teachers did however, report a high satisfaction rating with the intervention and believed that skills were useful in managing classroom behaviors. This study supports the use of TCIT principles to implement effective classroom management styles but it does not include student outcome data so it is impossible to know if changes in the teacher's behavior are associated with improvements in child behavior (Lyon et al., 2009).

During a second evaluation of TCIT-U, TCIT was implemented using a multiple-baseline design with five teachers and instructional assistants in two preschool classrooms. Majority of students in these classrooms were English Language Learners (ELL; Stokes, Rainear, Devers, & Budd, 2011). Teachers were trained in groups over two, 3-hour workshops (i.e., one for CDI and one for TDI). A final 1-hour workshop was given for feedback and a graduation session. Coaching sessions were conducted in the classroom twice a week for 20-minutes. Based on observational data, teachers once again improved their positive attending skills and were able to decrease their use of critical statements, questions, and commands. Additionally, student compliance increased and answering of teacher questions (Stokes et al., 2011).

In 2011, TCIT was evaluated in the Head Start system using individual teacher training outside the classroom and later in-classroom coaching (Campbell, 2011). This TCIT model is an intervention for children who display significant behavioral challenges (i.e., Teacher-Child Interaction Training – Preschool Program; TCIT-C). The TCIT-C program was designed to promote social and behavioral competence in Head Start children and increase teacher-efficacy and satisfaction for Head Start teachers (Campbell, 2011). The TCIT-C program was originally developed at the University of Nebraska-Lincoln (UNL), and the ongoing development of this TCIT model is currently a collaborative effort between East Central University (ECU) and Oklahoma State University (OSU). The TCIT-C treatment manual was originally created so the program could meet the specialized needs of the classroom environment, but still incorporate the

core behavioral principles as PCIT (Campbell et al., 2011). Key distinctions between TCIT-C and PCIT include: (a) TCIT-C is a classroom-wide intervention and every child in the classroom participates (versus PCIT which is delivered only to the caregiver and target child); (b) the training and coaching of TCIT-C skills is conducted within the natural school environment (PCIT is typically delivered in a clinic); (c) the TCIT-C program is designed to observe the progression of skills in multiple contexts including the classroom environment (PCIT rarely involved in home observations during or at the conclusion of treatment); and (d) TCIT-C services are delivered twice per week (rather than once per week).

#### *History of TCIT-C*

**Pilot investigation of TCIT-C.** In 2008, a pilot investigation of TCIT-C was conducted with Head Start teachers (and Head Start management) at a local child development center. This pilot research was conducted as part of an ongoing collaborative partnership between a local Head Start Center, a community action agency, and researchers at UNL. The purpose of the pilot project was to address the current gaps in both the TCIT and teacher training literature by: (a) evaluating the efficacy of TCIT-C using a structured treatment manual; (b) evaluating TCIT-C with a limited resource sample of preschool children with a wide range of social and behavioral problems; and (c) utilizing a multi-method, multi-symptom, and multi-informant assessment approach to evaluate teacher and child behaviors throughout treatment. In order to accomplish this task, members of the Child Maltreatment Lab at the UNL developed a TCIT-C treatment manual, and this newly developed protocol was utilized to conduct the TCIT-C pilot project with three Head Start preschool teachers. Preliminary results from the pilot project were promising as Head Start teachers demonstrated mastery criteria of TCIT-C skills in the training room and increased their use of TCIT-C skills in the classroom (Campbell et al., 2008). In addition, Head Start children exhibited decreased aggression and increased participation in classroom activities (Klinkebiel et al., 2008). However, the generalization and maintenance of TCIT-C skills from the training room to the classroom was inconsistent across teachers.

Although findings from the pilot project provided initial contributions to the examination of the effectiveness of TCIT-C in Head Start settings, additional efforts were needed to improve upon preliminary results, such as: (a) live classroom coaching for Head Start teachers to improve the generalization of TCIT-C skills (coaching in the pilot project was only conducted in the training room); (b) coaching sessions with individual and small groups of children (in the pilot project, coaching of TCIT-C skills occurred primarily with individual children which is not reflective of the classroom environment); (c) multiple TCIT-C coaches and random assignment of teachers (TCIT-C was only delivered by the primary investigator in the pilot project); (d) systematic assessment of treatment integrity; and (e) a multi-site evaluation with multiple teachers (the pilot study was conducted with three teachers at a single site).

To build on existing efforts in evaluating TCIT-C, Campbell (2011) utilized two concurrent multiple-baseline designed across classrooms. A total of six teachers and 101 children that were enrolled in six different Head Start classrooms participated in the study. Overall, findings suggested that Head Start teachers were able to acquire and master the TCIT-C skills with individual and small groups of children. Further, the TCIT-C skills acquired in the training room generalized to the classroom environment. Moreover, increased TCIT-C skill utilization by Head Start teachers was associated with improved social and behavioral competence for Head Start children both in the classroom and at home. The reported improvements were not only observed, but also reported by Head Start teachers and caregivers (Campbell, 2011). In addition, the TCIT-C program was well received by Head Start teachers, many of whom reported increased efficacy and satisfaction after completing the program.

While results showed significant improvements, the developer saw several areas of the program that could be re-structured to better fit schools across the nation and not just the Head Start population. After the conclusion of this study (i.e., Campbell, 2011), the structure of the model was re-designed to fit not only the classroom environment but the overall structure of a school.

TCIT-C is now referred to as Teacher-Child Interaction Training – Comprehensive Program (TCIT-C).

Researchers are still investigating the use of different models. Fernandez and colleagues (2015) have proposed another model of TCIT. The first investigation of this model was conducted in 2008 with two first grade and two kindergarten classrooms in a day treatment program. Training during this study was time-limited and involved eight didactic sessions delivered in a group format with four head teachers and nine support staff. Seven coaching sessions in the classroom were conducted for approximately 20 minutes with each teacher or support staff. Data was only collected on head teachers because they were most consistently able to attend didactics and be present in the classroom. Results of this study were mixed, three of the five teachers decreased their use of questions, commands, and critical statements and two increased their positive attending skills. Based on observational data, students in all classrooms decreased off-task behavior, and in two classrooms inappropriate behavior decreased. Teacher reports of student disruptive behavior did not improve, and teachers were only somewhat pleased with the training. Based on these findings, the authors felt there were room for improvements in the model.

The next implementation of this model was a multiple baseline design in eight classrooms from two-day treatment programs (Fernandez, Kurtz, O'Brien, Miller, & Madigan, 2011). Fernandez and colleagues (2011) adopted the training teachers approach outside the classroom from the TCIT-C model (Campbell, 2011). Teachers were able to improve positive attending skills and reduced questions, commands, and critical statements and achieved mastery for both phases (i.e., CDI and PDI). However, generalization results were mixed. During this study the use of in-classroom coaching was not utilized which could have impacted the utility of the model.

The final model of Fernandez and colleagues (2013) involves individual teacher training during twice-weekly, push-in coaching sessions during a performance-based approach. The

sequence was as follows: (a) CDI teach session was conducted outside the classroom (i.e., no students present) for 2 hours; (b) CDI coaching sessions were all conducted in the classroom (i.e., all students present) for 1 hour, 2 times a week until skills were mastered; (c) TDI teach session was conducted outside the classroom for 2 hours; (d) TDI coaching sessions were all conducted inside the classroom (i.e., all students presents) for 1 hours, 2 times a week until skills were mastered. A detailed description of the protocol used in this study is provided however, a description of the results is unclear. Further, a discussion of important considerations for how to best adapt PCIT for the classroom was provided. Many of these considerations have already been address in TCIT-C model but were not adopted by Fernandez and colleagues (2015).

In sum, TCIT has been shown to be an effective prevention and intervention model for use in a classroom setting. However, TCIT is a term that is widely used but one dominant model to define the term does not currently exist. Additionally, much of the previous research heavily focuses on a direct adaptation from PCIT but it should be noted that due to the unique environment a school and the school system provides, many adaptations must be made in order to address these needs. Thus, the overall goal of TCIT-C is to give teachers additional tools to help them deal proactively and effectively with behaviors that seriously and/or consistently fail to meet classroom expectations.

## CHAPTER III

### METHODOLOGY

#### **Participants**

The TCIT-C program was delivered to a total of three Kindergarten teachers and one teacher was used as a control. In the control classroom, teacher and student data was collected but the teacher did not receive the intervention. A total of 48 students (22 males, 26 females) ranged in age from 5 to 6 years of age ( $M = 5.44$ ;  $SD = 0.501$ ) were included in the study. All classrooms were full-day Kindergarten programs located within a public elementary school in Stillwater, Oklahoma. Eligible children will be between 5-6 years of age and enrolled in their classroom for at least 1 month prior to the onset of the TCIT-C training. No other exclusionary criteria were utilized for participating teachers or children.

The four participating teachers (4 females, 0 males) were the lead instructors in each of the four classrooms, and the teachers ranged in age from 28 to 46 years ( $M = 37.50$ ;  $SD = 8.06$ ). All teachers identified as Caucasian, and one identified as Caucasian and American Indian. Two teacher's had a master's degree, and two had completed some graduate work. Total time as an educator ranged from one year to 22 years ( $M = 11.25$ ;  $SD = 10.78$ ), and total time as an educator at their current location ranged from one year to 16 years ( $M = 10.75$ ;  $SD = 6.85$ ). More detailed information for teachers in each county is provided in Table 1.



Table 1  
*Demographic Information for Kindergarten Teachers*

	<b>Kindergarten Teachers (<i>n</i> = 4)</b>
<b>Gender</b>	
Male	0%
Female	100%
<b>Age</b>	
Average Age	37.50 Years
Range	28-46 Years
<b>Race/Ethnicity</b>	
Caucasian	100%
American Indian	25%
<b>Highest Level of Education</b>	
High school diploma / GED	---
4-Year college degree	50%
Master's degree	50%
<b>Total Years of Teaching Experience (average)</b>	11.25 Years
<b>Total Years of Teaching in Current School (average)</b>	10.75 Years

### **Research Design**

The current study utilized a multiple-baseline research design (Kazdin, 2003) to evaluate the acquisition and generalization of TCIT-C skills by Kindergarten teachers and changes in Kindergarten children's classroom behaviors. According to Kazdin (2003), multiple-baseline designs demonstrate the effect of an intervention by illustrating that behavior changes accompany the introduction of the intervention at different points in time. That is, behaviors are initially measured over time to provide baseline data, or pre-treatment conditions, against which changes in experimental conditions can be evaluated (Barlow, Nock, & Hersen, 2009). By staggering the introduction of the intervention across participants within a multiple-baseline design, the baseline phase for participants for which the intervention is delayed can be compared not only to the intervention phase of the same participant, but also the intervention phase of other participants already receiving the intervention at the same point in time. This added ability to make

comparisons across participants in different phases at a single point in time helps to rule out potential threats to internal validity such as history effects, which without a multiple-baseline design would be difficult to rule out.

For explanation purposes, the three participating Kindergarten classrooms are labeled Classrooms 1, 2, and 3. The study design could be conceptualized as an A-B-C design. In *Condition A* of the proposed multiple-baseline design, *baseline* observational data will be collected in all three classrooms (Classrooms 1, 2, and 3) for one month, twice per week, prior to the TCIT-C training. Next, the TCIT-C intervention is introduced in a systematic and scheduled manner. In the current study, the first phase of the TCIT-C (Child-Directed Interaction, described below) was introduced in Classroom 1 and this served as experimental *Condition B*. During this first week, Classrooms 2 and 3 did not receive the TCIT-C intervention, thereby remaining in *Condition A* (or baseline). One week later, Classroom 2 began the intervention (*Condition B*), while Classroom 3 remained in *Condition A*. The following week (two weeks after Classroom 1 began the intervention), Classroom 3 began the intervention (*Condition B*). The second phase of TCIT-C (Teacher-Directed Interaction, described below) would have represented *Condition C* and would have been introduced in each classroom as teachers meet mastery criteria for the first phase (CDI Phase) of the intervention. However, due to COVID-19 the study was unable to be completed and thus *Condition C* did not occur in any of the classrooms.

In the unfortunate event that a teacher was unable to complete the TCIT-T training (e.g., resign, move), a new teacher in a different classroom would have been recruited for participation, baseline and treatment data would have reset. It is also important to note that the order in which the intervention was delivered (i.e., which classrooms will be Classroom 1, 2, and 3) was randomly selected.

## Measures

### *Teacher Measures*

*Student-Teacher Interaction Coding System (STICS; Campbell et al., 2018).* The STICS is an observational system used to: (a) assess the quality of the student-teacher relationship; (b) evaluate the overall classroom environment; (c) determine coaching goals, and (d) evaluate training progress. More specifically, the STICS is used to code the frequency of teacher verbalizations across nine distinct categories: (1) Negative Talk; (2) Command; (3) Labeled Praise; (4) Unlabeled Praise; (5) Academic/Conduct Question; (6) General Question; (7) Reflection; (8) Behavior Description; and (9) Neutral Talk. The STICS observational system was adapted from the Dyadic Parent-Child Interaction Coding System – Fourth Edition (DPICS-IV; Eyberg, Chase, Fernandez, & Nelson, 2014), an observation system used to assess the quality of the parent-child interaction in PCIT. The DPICS-IV is an updated version of the original DPICS for which numerous studies have established reliability and validity (e.g., Eyberg & Robinson, 1982; Robinson & Eyberg, 1981). The mean inter-rater reliability for parental behavior for the original DPICS was 0.91 and several studies have found the DPICS to be sensitive to treatment effects (e.g., Eyberg & Matarazzo, 1980; Webster-Stratton, Hollinsworth, & Kolpacoff, 1989).

*Behavior Assessment System for Children (3<sup>rd</sup> edition) – Teacher Rating Scale (BASC-3 TRS; Reynolds & Kamphaus, 2015).* The BASC-3 is a system used to evaluate behavior and self-perceptions of children and young adults ages 2 through 25 years. The Teacher Rating Scales (TRS) are designed to measure a child's adaptive and problem behaviors in the school setting. The BASC-3 TRS for Children is a 156-item teacher-report assessment that measures a variety of child behavior problems and adaptive skills for children between 6 to 11 years of age. The BASC-3 TRS for Preschool is a 105-item teacher-report assessment that measures a variety of child behavior problems and adaptive skills for children between 2 to 5 years of age. On the BASC-3 TRS, respondent answer each of the 156 or 105 items using a four-point scale of frequency: (1) *Never*; (2) *Sometimes*; (3) *Often*; or (4) *Almost Always*). The BASC-3 TRS takes

approximately 10-20 minutes to complete, and responses are summarized across two scales (i.e., clinical scales and adaptive scales). The clinical scale measures maladaptive behavior and is comprised of four composites (i.e., Externalizing Problems, Internalizing Problems, School Problems, and Behavioral Symptoms Index). Scores for the BASC are reported as T-scores and percentile ranks. T-scores are standard scores with a mean of 50 and a standard deviation of 10. Scores are reported based upon a large clinical sample of children in the United States in regards to gender, race/ethnicity, and other factors. The norms in this report are based on same-aged peers from the norming sample. ***On the clinical scales***, a T-score of 70 or above indicates *Clinically Significant*, scores within this range indicate a high level of maladjustment and would warrant further inquiry and therapeutic intervention. A T-Score of 60-69 would indicate *At Risk* range may identify a problem that may not be severe enough to require formal treatment or may identify the potential of a developing problem that needs careful monitoring. Scores that are 59 or below are within the average range and are not typically of concern. ***On the adaptive scales***, a T-score of 30 or below indicates *Clinically Significant* and would warrant further inquiry and therapeutic intervention. A T-Score of 31 – 40 would indicate *At Risk* and would indicate a need for further monitoring and informal intervention or support to prevent the behavior from becoming worse. Scores that are 40 or above are within the average range and are not typically of concern.

***The Sutter-Eyberg Student Behavior Inventory – Revised (SESBI-R; Eyberg & Pincus, 1999)***. The SESBI-R is a 38-item teacher rating scale of disruptive behavior at school for children (ages 2 to 16 years of age) that was designed to identify children who are in need of treatment for behavioral problems. The SESBI-R requires at least a 6<sup>th</sup> grade reading level and takes approximately 10 minutes to complete. The SESBI-R contains two scales: (1) an Intensity Scale which measures the frequency of behavioral problems using a 7-point Likert-type scale ranging from 1 (*Never*) to 7 (*Always*); and (2) a Problem Scale which uses a *yes/no* format to assess the degree to which a child’s behavior is problematic for the teacher.

The SESBI-R scores are continuous such that higher scores on a scale indicate a greater level of conduct-disordered behavior and greater impact on the teacher. Reported Cronbach's alphas for the SESBI-R are .98 for the Intensity Scale and .96 for the Problems Scale (Eyberg & Pincus, 1999). Test-retest reliability correlations were .87 for Intensity Scale and .93 for the Problem Scale (Eyberg & Pincus, 1999). Inter-rater reliability for the SESBI-R ranged from .85-.86 for the Intensity Scale and from .84 to .87 for the Problems Scale (Eyberg & Pincus, 1999). Studies have supported the utility of the SESBI to assess treatment outcomes (e.g., Schuhmann et al., 1998).

**Teacher demographics, efficacy, job satisfaction, stress, and program evaluation.** In addition to teacher-report measures on child functioning, participating teachers will be asked to complete a basic demographic form, as well as measures about their own perceptions of efficacy, satisfaction, stress, and their experience with TCIT-C program (described below).

**Demographic Form.** The 10-item demographic form takes less than five minutes to complete. The items will assess the teachers' age, race/ethnicity, sex, education, teaching experience, and languages spoken.

**Teacher Efficacy Scale (TES; Campbell et al., 2018).** The TES is a 39-item assessment designed to capture a teacher's sense of teaching efficacy (i.e., belief that one has the ability to address behavioral challenges in the classroom). This instrument uses a Likert-type 7-point scale ranging from 1 (*Never Confident*) to 7 (*Always Confident*) and takes approximately five minutes to complete.

**Teacher Satisfaction Scale (TSS; Campbell et al., 2018).** The TSS is a 30-item satisfaction scale designed to assess a broad range of employment satisfaction. This instrument uses a Likert-type 5-point scale ranging from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*) and takes approximately five minutes to complete.

**Teacher Stress Inventory (TSI; Larson et al., 2018).** The TSI is a 65-item inventory designed to assess teacher stress across six dimensions: (1) Teaching Criteria and Standards; (2)

Teaching Responsibility and Expectations; (3) Classroom Environment; (4) Administration and Staff Support; (5) Children; and (6) Caregivers. This instrument uses a Likert-type 5-point scale ranging from 5 (*Strongly Agree*) to 1 (*Strongly Disagree*) and takes approximately 15 minutes to complete.

### ***Child Measures***

***Behavioral Observation of Preschoolers System (BOPS; Campbell et al., 2011).*** The BOPS is a live behavioral observation coding system that captures 23 prosocial and disruptive classroom behaviors grouped into five scales (i.e., Prosocial Behaviors with Teacher(s), Prosocial Behaviors with Peer(s), Independent Behaviors, Challenging Behaviors, and Noteworthy Behaviors). The coding system consists of a 5-minute observation period separated into 30-second intervals. In the open trial, Cohen's kappa coefficients ranged from .85 to .99 across the five scales.

### **Procedures for Data Collection, Coding, Management, and Analysis**

Research activities for the proposed study will be implemented in three phases: (1) Preparation and Training of Assistants; (2) Data Collection – Assessment Measures and Observations; and (3) Data Entry and Analysis.

#### ***Phase I. Preparation and Training of Assistants***

After research procedures and documents have been approved by the Oklahoma State University Institutional Review Board, the primary investigator will meet with participating schools to formalize data collection plan. In addition, the primary investigator will collect a classroom list from the participating classrooms to prepare assessments. Informational letters will be sent to the home to the caregivers of every child in the participating classrooms, describing the purpose of TCIT and procedures.

Training for the *Observation Team* of graduate research assistants will begin one month prior to baseline observations. The Observation Team will be uninformed about the treatment design and procedures. The primary investigator has already developed a protocol and materials

for training research assistants to code behaviors of teachers and children. Training will involve watching, discussing, and coding sample videos with the primary investigator. Following training, all research assistants will be required to demonstrate their ability to reliably code student behaviors (using the BOPS) and teacher behaviors (using the STICS). Competency will be considered at 80% inter-rater reliability for both the BOPS and STICS coding systems. Afterwards, the Observation Team will meet weekly with the primary investigator to discuss coding questions and maintain reliability.

### ***Phase II. Data Collection – Assessment Measures and Observations***

*Teacher-report assessments.* Teacher-report measures will be collected at two assessment periods (i.e., pre-treatment, post-treatment). At the pre-intervention assessment period, or *baseline* assessment, teachers will complete one teacher-report assessment measure on students' functioning, and four self-report measures: (1) Demographic Form; (2) Teacher Efficacy Scale; (3) Teacher Satisfaction Scale; and (4) Teacher Stress Inventory. It is estimated that the baseline assessments will take each teacher 2-3 hours to complete. At the post-intervention assessment period, teachers will complete the same teacher-report assessment measure on students' functioning, and three self-report measures: (1) Teacher Efficacy Scale; (2) Teacher Satisfaction Scale; and (3) Teacher Stress Inventory. It is estimated that the post-treatment assessments will take each teacher 2-3 hours to complete.

*Observational data collection of classroom behaviors.* The Observation Team of graduate research assistants will observe and collect *baseline* behaviors of teachers and students in Classroom 1, 2, and 3 for a period of 4 weeks, 5 weeks, and 6 weeks, respectively. Every teacher and 12 students (selected by the teacher) from each classroom will be observed twice per week. Research assistants will continue to record every participating teacher and the selected students behavior each week, twice per week, during the TCIT-C intervention.

The reliability of observational coding by research assistants on the Observation Team will be routinely assessed throughout the study, and inter-observer coding between research

assistants will be regularly scheduled. The primary investigator will supervise inter-observer coding sessions and immediately collect materials following the inter-observational period. If the inter-rater reliability is below 80% during any coding period, the two research assistants will meet with the primary investigator to review coding and/or receive additional training. The primary investigator will hold regular weekly group meetings with the Observation Team. These meetings will be used to address questions or concerns that arise during observational periods.

*Monitoring TCIT progress in the training room.* As described below, direct observations of teacher-student interactions will occur regularly throughout the TCIT-C intervention within the training room. The teachers' verbalizations during the scheduled observation periods will be recorded, in session, by the TCIT-C Coach. In addition, all TCIT-C sessions will be recorded and these 5-minute observation periods will also be coded by members of the Observation Team. Results from these ongoing assessments will be used for tracking progress and to determine whether teachers have met the criteria for skills mastery (described below).

### **Procedures for Teacher-Child Interaction Training – Comprehensive (TCIT-C)**

**TCIT-C Coach.** In the TCIT-C program, the intervention is delivered by “Coaches” rather than “therapists” to demonstrate an ongoing collaborative training model. The primary investigator will serve as the TCIT-C Coach.

**Setting of TCIT-C.** The TCIT-C program is specifically designed to be delivered within the natural, classroom setting. All training will be conducted during regular school hours inside the school building of the participating teachers. As opposed to traditional workshops which are largely didactic and delivered to groups of adults with limited practice involved, TCIT-C allows teachers to learn, practice, and master skills with students from their own classroom. In addition, delivering the training within the school setting allows the TCIT-C Coach to provide guidance and feedback of skills during live student-teacher interactions.

Each phase of TCIT-C (i.e., Child-Directed Interaction and Teacher-Directed Interaction) includes both *teaching* sessions (where TCIT-C skills are introduced, modeled, and role-played



with the teacher), followed by *Coaching* sessions (where Coaches use prompting, modeling, reinforcement, and selective attention to shape teachers' utilization of TCIT-C skills during live student-teacher interactions). *Teaching* sessions will occur outside the classroom environment in a designated "training room" (a separate room within the school). *Coaching* sessions will occur both in the training room and classroom environment. The designated training room can be a staff office, conference room, or the school cafeteria. Any room in the school that is large enough for the Coach, teacher, and student(s) that is clean and safe can be used as the training room as determined by the TCIT-C Coach and school officials.

### **Overview of the TCIT-C Program**

TCIT-C was created as an adaptation of the 2011 Parent-Child Interaction Therapy Protocol (Eyberg & Funderburk, 2011). The TCIT-C program was designed to be conducted over 22 sessions, with sessions occurring twice per week (i.e., total of 11 weeks of teacher training). However, it's important to note that the TCIT-C model uses a mastery (data-driven) approach rather than time-limited approach to training. Thus, progression from the Child-Directed Phase to the Teacher-Directed Phase to Graduation from TCIT-C is based on demonstrating a specific set of skills (mastery criteria) within each phase (further described below).

Prior to beginning the first phase of TCIT-C, four pre-training sessions will occur. The first two sessions (i.e., Pre-Training Assessment, STICS Observation Session) are assessment driven with limited interactions with the teachers. The next two sessions (the Introductions & Information Session, the Overview & Motivation Session) are rapport building sessions with the teacher. After pre-training sessions, the first phase of the training program begins. The first phase (Child-Directed Interaction; CDI) is designed to have two Teaching Sessions (i.e., CDI Teach with One Child, CDI Teach with Multiple Students) and approximately six Coaching Sessions. The second phase (Teacher-Directed Interactions; TDI) was also created with two Teaching Sessions (i.e., Classroom Structure Session, TDI Teach Session) and approximately six Coaching Sessions. After teachers have mastered skills across both phases training, post-

treatment sessions occur (i.e., Post-Training Assessment, STICS Observation Session) followed by the Graduation Session.

**Pre-Training Assessment.** The initial assessment used for the TCIT-C may vary based on the location and the purpose of the clinical/research services. For the proposed study, a SESBI-R will be collected for each child in the participating teachers' classroom. Additionally, independent live behavior observations of child behavior will be used to evaluate behavioral changes in the classroom (as described above).

**STICS Initial Observation Session.** Similar to PCIT, TCIT-C requires ongoing data collection within the training room and begins with baseline observations of teacher-child interactions. In the proposed study, baseline observations will take approximately one hour and the STICS Initial Observation Session will occur one week before starting the TCIT-C intervention. During baseline observations, teachers will be asked to complete three, standard five-minute tasks (i.e., Child Directed Interaction, Teacher Directed Interaction, and Clean-Up) with an individual child, "pairs" (pair of children), and in "triplets" (a group of three children). The three situations vary in degree of task demand put on the child. The procedures for "pairs" and "triplets" are exactly the same as for an individual child. For explanation purposes, the three tasks will only be described using an individual child.

In the first five-minute task, Child-Directed Interaction (CDI), the child is allowed to play with whatever they choose (i.e., the child picks any activity/toy that is available in the room) and the teacher is asked to follow the child's lead and play along. Typically, the CDI task elicits positive behaviors by the child and allows the TCIT-C Coach to observe student-teacher interactions with no task demand being put on the child. During the second five-minute task, Teacher-Directed Interaction (TDI), the teacher is asked to choose the activity/toy and encouraged to have the child participate and follow along according to the teacher's rules (increasing the task demand). The second task allows the TCIT-C Coach to observe: (a) strategies the teacher utilizes to elicit participation; (b) how the child responds to the teacher; and

(c) what behaviors occur when the teacher provides instructions. In the last five-minute task, the Clean-Up situation, teachers are asked to tell the child that it is time to clean up the toys. Teachers are instructed to tell the child to put all the toys away even if the child did not play with the toy. In order to observe the Clean-Up task, the TCIT-C Coach scatters several toys on the floor prior to bringing the child into the training room (i.e., before the first observation task). The Clean-Up situation has the highest task demand and is typically the most challenging for children. Often, children who have significant behavioral problems, display challenging behaviors during the Clean-Up situation.

After completing the three observation situations with an individual child, the teacher repeats the three situations with pairs of children, and again with three children. The participating individual child and pairs of children are randomly selected from the classroom. However, the three children with the most challenging behaviors (as reported by the teacher) are selected as the small group of three children (i.e., triplets) for baseline observations. It is important to note that each child is only allowed to participate once (i.e., a child not be selected for the individual child situations and later return in pairs or triplets). During the initial observation period, the teacher's verbalizations and behaviors will be recorded live by the TCIT-C Coach (using the STICS) and recorded. These initial observations will be used to provide useful information about the teacher's skills prior to beginning the intervention and may help the TCIT-C Coach foresee potential barriers that may interfere with progress (e.g., negative attitude toward children). More importantly, the observations will serve as the baseline assessment of teacher skills in order to evaluate progress over the course of the TCIT-C program.

**Pre-Training Session #1 – Introductions and Information.** The primary goals for the Introduction and Information Session are to: (a) establish rapport with the teacher; (b) describe the TCIT-C Coaches role in the training; (c) discuss the teacher's primary concerns about disruptive behaviors in the classroom; (d) assess the teacher's current methods of behavior management; and (e) discuss teacher expectations for training. Pre-Training sessions will take

place outside the of the classroom in a designed “training room.” Ideally, the training room should be separate from the classroom. For this session, the TCIT-C Coach and teacher meet without students to maximize learning, increase rapport, and limit distractions. At the conclusion of the pre-training session the TCIT-C Coach should be able to summarize the behavioral challenges in the classroom and describe how the TCIT-C Training Program is designed to address specific concerns presented by the teacher.

**Pre-Training Session #2 – Overview and Motivation.** The primary goals for the Overview and Motivation Session are to: (a) continue to establish teacher rapport; (b) discuss factors that contribute to students’ behaviors; (c) evaluate the teacher’s motivation to participate in the program; and (d) provide teachers with a brief description of the TCIT-C program. Similar to the first pre-training session, this session should take place outside the classroom in a designed training room without children present. Towards the end of this session teachers will be asked to fill out a Readiness To Change (RTC) Scale and the TCIT-C Coach will attempt to discuss as many responses from the RTC as possible.

### **TCIT-C Phase 1 – Child-Directed Interaction (CDI)**

The primary goal of the first phase of the TCIT-C program, Child-Directed Interaction (CDI) phase, is to develop and enhance positive teacher-child relationships. Similar to PCIT, only CDI (relationship enhancement) skills and activities are utilized during the first phase of the TCIT-C program. Activities that are teacher driven (i.e., clean up) and may result in noncompliance (or other negative interactions) are not utilized during sessions in the first phase. These tasks, and related skills, are addressed in sessions that occur during the second phase of the TCIT-C program. The TCIT-C program is designed this way, similar to PCIT, because previous PCIT research has shown that child-led activities (with constant attentive behaviors provided by the caregiver) result in enhanced positive parent-child relationships (e.g., Bell & Eyeberg, 2002; Hembree-Kigin & McNeil, 1995).

**Child-Directed Interaction (CDI) Teaching Session.** The primary goals of the CDI Teaching Session are to: (a) continue to build rapport with the teacher; (b) educate the teacher about the procedures and course of training; (c) teach the teacher Child-Directed Interaction (or PRIDE) skills; (d) provide the rationale for each skill in a way that the teachers understand why the individual skill (and CDI as a whole) are important for their students; (e) explain the Teacher-Child Interaction Practice Session (TIPS) Time procedures to the teacher. Similar to the pre-training sessions, this session should take place outside the classroom in a designed training room without children present.

The Teaching Session is designed to help facilitate the learning of skills through didactics, modeling, and role-play. In this session, teachers are taught to attend to appropriate behaviors that they want to see again (e.g., sharing, waiting patiently, playing quietly) and actively ignoring attention-seeking, inappropriate behaviors that are not a safety concern (e.g., whining, playing rough with toys, temper tantrums). Similar to the skills taught in PCIT, the skills teachers learn in the first phase of TCIT-C are known as the PRIDE skills – *Praise, Reflection, Imitation, Description, and Enjoyment* (formerly **E**nthusiasm; McNeil & Hembree-Kigin, 2010; PCIT International Protocol, 2011). Teachers are taught to utilize the PRIDE skills to reward (and increase the frequency of) children’s appropriate behaviors by: (**P**) recognizing and encouraging prosocial behaviors; (**R**) utilizing active listening and reflection skills to increase appropriate verbal communication; (**I**) modeling appropriate behaviors while enjoying time with children; (**D**) conveying interest in prosocial behaviors; and (**E**) communicating excitement and pleasure about the interactions (Hembree-Kigin & McNeil, 1995).

In addition to the PRIDE skills, teachers will also learn and practice how to avoid asking questions, giving commands, or using criticism during the CDI phase of the TCIT-C program. Specifically, teachers will learn that: (1) asking questions can distract or take the lead away from the child’s play and conversation; (2) giving commands not only takes the lead away from the child, but may result in noncompliance and possibly hinder the teacher-child relationship; and (3)

criticizing children's behaviors can cause unpleasant interactions. Additionally, providing negative attention, such as criticism, often serves as a powerful reinforcer for children who have behavioral problems, making it ineffective for decreasing behavior problems (Hembree-Kigin & McNeil, 1999).

At the end of the CDI Teaching Session, teachers are asked to practice the PRIDE skills for 10 minutes of "TIPS Time" each day with two different children (five minutes per child). This is the teacher's weekly homework assignment and is designed to allow the teacher to practice PRIDE skills that are designed to enhance the teacher-child relationship. These one-on-one teacher-child homework assignments are completed outside the classroom (or in a corner away from other children in the classroom) to limit interruptions or distractions. This provides the teacher with the best opportunity at enhancing the dyadic relationship.

As previous stated, the TCIT-C program is a class-wide intervention. The training uses a scaffolding approach to provide teachers with skills to build and strengthen positive relationships with every child in their classroom. That is, TCIT-C is designed to provide teachers with the skills to improve teacher-child relationships with an individual child and then gradually teaching them how to expand their use of the CDI skills with groups of children, which is more representative of the overall classroom environment.

**CDI Coaching Session #1.** The hallmark of the TCIT-C (and PCIT) program is the use of in-vivo Coaching that consists of constructive and positive statements toward the teacher. Hembree-Kigin and McNeil (1995) proposed five arguments that state the advantages of direct Coaching as opposed to traditional methods of training (e.g., modeling, rehearsal, or didactic instruction): (1) direct Coaching allows the Coach to adapt the skills being taught to manage unique behavior problems as they arise; (2) allows the Coach to correct errors quickly so teachers do not repeatedly practice incorrect techniques; (3) Coaches do not have to rely on self-reported utilization of skills in the classroom, they are able to directly observe the skills being used; (4)

immediate, positive feedback by the Coach can prompt, shape, and reinforce the teacher's use of appropriate skills; and (5) the Coach can fade out prompts as teachers skills increase.

The primary goals of the first Coaching session with one child are to: (a) address to the importance of TIPS Time homework completion; (b) create a supportive environment where the teacher feels comfortable practicing newly learned CDI skills (i.e., PRIDE skills); and (c) reinforce the teacher for their use of the CDI skills and their progress. Similar to previous sessions, this session should take place outside of the classroom in a designated training room to limit distractions. The session begins with the collection and detailed review of the homework. Next, the teacher's utilization of the PRIDE skills will be assessed by the TCIT-C Coach while the teacher and an individual child engage in the CDI task for five-minutes. During this time, the Coach remains silent (no Coaching or feedback should occur during this time) and records (codes) the teacher's utilization of the PRIDE skills. At the end of the five-minute observation period, the Coach will prioritize coaching goals (based on five-minute observation period) and provide brief feedback (i.e., less than 30 seconds) to the teacher. The remaining time in the session is spent coaching the teacher's use of the PRIDE skills with an individual child. The TCIT-C Coach will Coach the teacher for 10 minutes with one child. At the end of the 10 minutes, the first child returns to the classroom and the teacher selects a different child and the process is repeated (i.e., coaching and feedback). The TCIT-C Coach should focus only on giving positive feedback, ignoring teacher mistakes for the first Coaching session. At the end of the session, the teacher will be asked to continue to practice using the PRIDE skills during 10 minutes of "TIPS Time" each day with two different children (five minutes per child).

**CDI Coaching Session #2.** The primary goals for the second Coaching session are to: (a) continue to address the importance of daily TIPS Time homework completion; (b) continue to shape the teachers' use of CDI skills with one child (i.e., PRIDE skills); and (c) install positive expectations for mastery. Similar to previous sessions, this session should take place outside of the classroom in a designated training room to limit distractions. The session begins with the

collection and detailed review of the homework. Next, the teacher's utilization of the PRIDE skills will be assessed by the TCIT-C Coach while the teacher and an individual child engage in the CDI task for five-minutes. During this time, the Coach remains silent (no coaching or feedback should occur during this time) and records (codes) the teacher's utilization of the PRIDE skills. At the end of the five-minute observation period, the Coach will prioritize coaching goals (based on five-minute observation period) and provide brief feedback (i.e., less than 30 seconds) to the teacher. The remaining time in the session is spent coaching the teacher's use of the PRIDE skills with an individual child. The TCIT-C Coach will coach the teacher for 10 minutes with one child. At the end of the 10 minutes, the first child returns to the classroom and the teacher selects a different child and the process is repeated (i.e., Coaching and feedback). After Coaching the second child, the teacher should walk the student back to class and return to the training room. At the end of the session, the TCIT-C Coach should briefly explain CDI Mastery Criteria. That is, during the 5-minute coding period at the beginning of the session, the teacher must give: at least 10 Labeled Praises, at least 10 Reflections, at least 10 Behavioral Descriptions, with no more than 3 total avoid skills (i.e., Commands + Questions + Criticisms). The TCIT-C Coach should also explain that teachers must meet mastery criteria to move on to the next stage. Lastly, the teacher will be asked to continue to practice using the PRIDE skills during 10 minutes of "TIPS Time" each day with two different children (five minutes per child).

**CDI Coaching Session #3:** The primary goals for the third Coaching session are to: (a) continue to address the importance of daily TIPS Time homework completion; (b) continue to shape the teachers' use of CDI skills with one child (i.e., PRIDE skills), with an emphasis on skills that the teacher has yet to meet; and (c) install positive expectations for mastery. Similar to previous sessions, this session should take place outside of the classroom in a designated training room to limit distractions. The session begins with the collection and detailed review of the homework. Next, the teacher's utilization of the PRIDE skills will be assessed by the TCIT-C Coach while the teacher and an individual child engage in the CDI task for five-minutes. During



this time, the Coach remains silent (no coaching or feedback should occur during this time) and records (codes) the teacher's utilization of the PRIDE skills. At the end of the five-minute observation period, the Coach will prioritize coaching goals (based on five-minute observation period) and provide brief feedback (i.e., less than 30 seconds) to the teacher. The remaining time in the session is spent coaching the teacher's use of the PRIDE skills with an individual child. The TCIT-C Coach will Coach the teacher for 10 minutes with one child. At the end of the 10 minutes, the first child returns to the classroom and the teacher selects a different child and the process is repeated (i.e., coaching and feedback). After coaching the second child, the teacher should walk the student back to class and return to the training room so the Coach is able to review the training session and review progress towards CDI mastery. Lastly, the teacher will be asked to continue to practice using the PRIDE skills during 10 minutes of "TIPS Time" each day with two different children (five minutes per child).

**CDI Coaching Session #4 and Beyond.** The primary goals for the fourth Coaching session and beyond are to: (a) continue to address the importance of daily TIPS Time homework completion; (b) achieve CDI mastery with one child; and (c) increase teacher motivation to meet CDI mastery criteria. Similar to previous sessions, this session should take place outside of the classroom in a designated training room to limit distractions. The session begins with the collection and detailed review of the homework. Next, the teacher's utilization of the PRIDE skills will be assessed by the TCIT-C Coach while the teacher and an individual child engage in the CDI task for five-minutes. During this time, the Coach remains silent (no Coaching or feedback should occur during this time) and records (codes) the teacher's utilization of the PRIDE skills. At the end of the five-minute observation period, the Coach will prioritize Coaching goals (based on five-minute observation period) and provide brief feedback (i.e., less than 30 seconds) to the teacher. The remaining time in the session is spent Coaching the teacher's use of the PRIDE skills with an individual child. The TCIT-C Coach will coach the teacher for 10 minutes with one child. At the end of the 10 minutes, the first child returns to the

classroom and the teacher selects a different child and the process is repeated (i.e., coaching and feedback). After coaching the second child, the teacher should walk the student back to class and return to the training room so the Coach is able to review the training session and review progress towards CDI mastery. Lastly, the teacher will be asked to continue to practice using the PRIDE skills during 10 minutes of “TIPS Time” each day with two different children (five minutes per child).

As stated above, the TCIT-C program is a mastery-based, rather than time-limited, intervention. As mentioned above, before progressing to the next phase (i.e., utilizing PRIDE skills with multiple children), teachers in the present study will have to demonstrate specific behavioral goals (i.e., CDI mastery) with an *individual* child. Mastery criteria of CDI skills could be demonstrated by teachers as early as CDI Coaching session #1, but usually takes more time to achieve. If a teacher demonstrates mastery criteria prior to CDI Coaching session #4, the TCIT-C Coach will continue following the session structure described above to give the teacher the opportunity to receive live coaching with at least 8 students from their classroom (roughly 1/3 of the classroom) and complete TIPS Time at least once with each student in their classroom. If a teacher does not meet CDI mastery by CDI Coaching session #4, the TCIT-C will continue following the session structure described above until the teacher reaches CDI mastery.

**CDI Teaching Session with Multiple Children (Pairs).** The primary goals of the CDI Teaching Session with Multiple Children are to: (a) teach the teacher how to use the Child-Directed Interaction (PRIDE) skills with multiple children; (b) educate the teacher about changes to the weekly session structure, including Coaching with multiple students and classroom Coaching; and (c) explain the revised Teacher-Child Interaction Practice Session (TIPS) Time procedures with the teacher. Similar to the first CDI Teach Session, this session should take place outside the classroom in a designed training room without children present. The Teaching Session is designed to help facilitate the learning of CDI skills with multiple children through didactics, modeling, and role-play. If possible, the TCIT-C Coach should try to facilitate getting

other adults to role-play students for the propose of this session (e.g., other teachers, administrative staff, research assistants). In this session teachers are: (a) taught the importance of mastering CDI skills with multiple students in the training room; (b) asked to recall the PRIDE skills and three things to avoid during CDI; (c) taught new procedures for TIPS Time; (d) given new training room and classroom Coaching procedures; (d) given an explanation, rational, and example of how to use each PRIDE skill with multiple children; (e) given a review of what do when students misbehavior during TIPS Time; (f) asked to role-play CDI with multiple children for 5-10 minutes; and (e) assigned homework.

**CDI-Pairs Coaching Session #1 and Beyond.** The primary goals for CDI-Pairs Coaching session one and beyond are to: (a) review TIPS homework completion with pairs of children; (b) achieve CDI mastery with a pair of children in the training room; and (c) achieve CDI mastery in the classroom. Different from previous sessions, the first half of the CDI Coaching Session – Pairs should take place within the classroom. Ideally, the coaching should occur during unstructured play time. The second half of the CDI Coaching Sessions – Pairs should take place outside the classroom in a designated training room to limit distractions. The session begins by the TCIT-C Coach meeting the teacher in the classroom to conduct classroom coaching. Next, the teacher’s utilization of the PRIDE skills will be assessed by the TCIT-C Coach while the teacher interacts with all the children in their classroom, using the PRIDE skills. During this time, the Coach remains silent (no coaching or feedback should occur during this time) and records (codes) the teacher’s utilization of the PRIDE skills. At the end of the five-minute observation period, the Coach will prioritize coaching goals (based on five-minute observation period) and provide brief feedback (i.e., less than 30 seconds) to the teacher. The TCIT-C Coach will then coach the teacher in the classroom for 10 minutes. After 10 minutes of classroom coaching, the Coach, teacher, and a pair of children will walk to the training room. The teacher will be given 3-5 minutes to “warm-up”. Then assess the teacher’s utilization of the PRIDE skills for 5 minutes with a pair of students in the training room. At the end of the five-

minute observation period, the Coach will prioritize coaching goals (based on five-minute observation period) and provide brief feedback (i.e., less than 30 seconds) to the teacher. The TCIT-C Coach will then Coach the teacher in the training room with a pair of children for 10 minutes. After Coaching in the training room, the teacher should walk the students back to class and return to the training room so the Coach is able to review the training session and review progress towards CDI mastery with Pairs of children.

If a teacher demonstrates mastery criteria with Pairs of children during this session or any session after, the TCIT-C Coach will discuss how the next session will be another CDI Teach Session that will focus on using the PRIDE skills with 3 children. If a teacher does not meet CDI mastery with Pairs of children, the TCIT-C will continue following the session structure described above until the teacher reaches CDI mastery with Pairs of children. Regardless of CDI mastery (i.e., even if the teacher hits CDI mastery with Pairs), the teacher will still be asked to continue to practice using the PRIDE skills during 10 minutes of “TIPS Time” each day with *two children* at a time (five minutes per Pair).

**CDI-Trips Coaching Session #1 and Beyond.** The primary goals for CDI-Trips Coaching session one and beyond are to: (a) review TIPS homework completion with three children; (b) achieve CDI mastery with three children in the training room; and (c) achieve CDI mastery in the classroom. Similar to CDI-Pairs Coaching sessions, the first half of the CDI Coaching Session – Trips should take place within the classroom. Ideally, the Coaching should occur during activity time. The second half of the CDI Coaching Sessions – Trips should take place outside the classroom in a designated training room to limit distractions. The session begins by the TCIT-C Coach meeting the teacher in the classroom to conduct classroom Coaching. Next, the teacher’s utilization of the PRIDE skills will be assessed by the TCIT-C Coach while the teacher interacts with all the children in her classroom, using the PRIDE skills. During this time, the coach remains silent (no coaching or feedback should occur during this time) and records (codes) the teacher’s utilization of the PRIDE skills. At the end of the five-

minute observation period, the Coach will prioritize coaching goals (based on five-minute observation period) and provide brief feedback (i.e., less than 30 seconds) to the teacher. The TCIT-C Coach will then coach the teacher in the classroom for 10 minutes. After 10 minutes of classroom Coaching, the Coach, teacher, and all three children will walk to the training room. The teacher will be given 3-5 minutes to “warm-up”. The TCIT-C Coach will then assess the teacher’s utilization of the PRIDE skills for another 5 minutes with all three children in the training room. At the end of the five-minute observation period, the Coach will prioritize coaching goals (based on five-minute observation period) and provide brief feedback (i.e., less than 30 seconds) to the teacher. The TCIT-C Coach will then Coach the teacher in the training room with all three of the children for 10 minutes. After Coaching in the training room, the teacher should walk the students back to class and return to the training room so the Coach is able to review the training session and review progress towards CDI mastery with three children.

If a teacher demonstrates mastery criteria with three children during this session or any session after, the TCIT-C Coach will discuss how the next session will be the TCIT-C Classroom Structure Teaching Session. If a teacher does not meet CDI mastery with three children, the TCIT-C will continue following the session structure described above until the teacher reaches CDI mastery with three children. Regardless of CDI mastery (i.e., even if the teacher hits CDI mastery with Trips), the teacher will still be asked to continue to practice using the PRIDE skills during 10 minutes of “TIPS Time” each day with *three children* at time (five minutes per Trip).

### **TCIT-C Phase 2 – Teacher-Directed Interaction (TDI)**

*Please note, due to the COVID-19 pandemic, schools were abruptly closed and Phase-2 of the TCIT-C intervention was not delivered.*

**Classroom Structure Teaching Session.** The primary goals for the classroom structure session are to: (a) continue classroom Coaching and achieve CDI mastery in the classroom; (b) discuss important concepts in classroom structure and routines; (c) help teachers create developmentally appropriate activities, routines, and structure in their classrooms. Similar to

multiple children Coaching sessions, the first 10 minutes of the Classroom Structure Teaching Session will take place within the classroom and the remainder of the session will take place in the training room with no children present. To start the session, the TCIT-C Coach will meet the teacher in the classroom to conduct classroom Coaching. Next, the teacher's utilization of the PRIDE skills will be assessed by the TCIT-C Coach for five minutes while the teacher interacts with all the children in her classroom, using the PRIDE skills. During this time, the Coach remains silent (no Coaching or feedback should occur during this time) and records (codes) the teacher's utilization of the PRIDE skills. At the end of the five-minute observation period, the Coach will prioritize Coaching goals (based on five-minute observation period) and provide brief feedback (i.e., less than 30 seconds) to the teacher. The TCIT-C Coach will then Coach the teacher in the classroom for five minutes. After classroom Coaching occurs, the teacher and the TCIT-C Coach will leave the classroom and finish the session in the training room. The following items should be addressed during the Classroom Structure Session: (a) the importance of developing classroom rules, structure, and routine; (b) discuss key concepts in establishing classroom rules, structure, and routines; (c) allow teachers time to develop classroom rules, structure, and routines; (d) a homework assignment will be given for each topic covered during the session.

Lastly, the teacher will be asked to continue to practice using the PRIDE skills during 10 minutes of "TIPS Time" each day with two sets of three children at time (five minutes per Trip). These small group teacher-child homework assignments are completed outside the classroom (or in a corner away from other children in the classroom) to limit interruptions or distractions. Providing the teacher with the best opportunity at enhancing the dyadic relationship with multiple children.

**TCIT-C Phase 2 – Teacher-Directed Interaction (TDI).** The goal of the second phase of the TCIT-C program, called Teacher-Directed Interaction (TDI), is to develop, enhance, and maintain behavior management skills. Each session is dedicated to providing teachers with

reasonable, age-appropriate behavior management strategies and expectations that can be used within the context of a positive teacher-child relationship. The TDI phase of TCIT-C is similar to PCIT, in that the Coach assist teachers with problematic situations by enhancing teachers' abilities to set consistent and fair limits, follow through with directives in a predictable manner, and provide reasonable, age-appropriate consequences for misbehavior (Herschell & McNeil, 2005). Both PCIT and TCIT-C are unique in the compliance is treated as a skill that can, and should be taught and practiced regularly. An over-practice approach is used in the TDI phase by teaching teachers "daily minding exercises", increasing the task demand as frequency of child compliance increases. This allows for a proactive behavior management approach to take place by practicing compliance skills, instead of using behavior management skills that are reactive to manage noncompliance.

**TDI Teaching Session.** The primary goals of the Teacher-Directed Interaction Teaching Session are to: (a) continue classroom Coaching and achieve CDI mastery in the classroom; (b) introduce the second phase of TCIT-C, Teacher-Directed Interaction Phase; (c) teach the teacher all the steps in the TDI procedure; (d) role play the Pause & Replay procedures with the teacher. It is important to note that this session should not be conducted until the TCIT-C Coach has discussed all the Pause & Replay Procedures with members of administration, established the Pause & Replay location in the classroom, and Identified an appropriate back-up strategy with members of administration if a child is unable to remain in Pause & Replay.

Similar to the Classroom Structure session, the TDI Teaching Session will begin in the classroom and end in the training room with no children present. To start the session, the TCIT-C Coach will meet the teacher in the classroom to conduct classroom Coaching. Next, the teacher's utilization of the PRIDE skills will be assessed by the TCIT-C Coach for five minutes while the teacher interacts with all the children in her classroom, using the PRIDE skills. During this time, the Coach remains silent (no Coaching or feedback should occur during this time) and records (codes) the teacher's utilization of the PRIDE skills. At the end of the five-minute observation

period, the Coach will prioritize Coaching goals (based on five-minute observation period) and provide brief feedback (i.e., less than 30 seconds) to the teacher. The TCIT-C Coach will then Coach the teacher in the classroom for five minutes. After classroom Coaching occurs, the teacher and the TCIT-C Coach will leave the classroom and finish the session in the training room. The following items should be addressed during the TDI Teaching Session: (a) introduce the format and purpose of TDI; (b) introduce the importance of delivering effective commands; (c) go over the guidelines for delivering an effective command; (d) explain that TDI is introduced with simple practice commands in a play situation; (e) what to do after a command is issued and compliance occurs; (f) what to do after a command is issued and noncompliance occurs; (g) describe why the technique is called Pause & Reply; (h) explain the purpose of a Pause & Replay backup procedure; (i) role-play Pause & Replay sequence with teacher.

Lastly, the teacher will be asked to continue to practice using the PRIDE skills during 10 minutes of “TIPS Time” each day with two sets of three children at time (five minutes per Trip). These small group teacher-child homework assignments are completed outside the classroom (or in a corner away from other children in the classroom) to limit interruptions or distractions. Providing the teacher with the best opportunity at enhancing the dyadic relationship with multiple children.

**TDI Coaching Session #1.** The primary goals for the first TDI Coaching session are to: (a) continue classroom Coaching and achieve CDI mastery in the classroom; (b) have teacher practice TDI skills with closely supervised Coaching to assure that the teacher has a successful first TDI experience; (c) continue to emphasize that the teacher should implement the TDI procedure as written. The first 10 minutes of the first TDI Coaching Session will take place within the classroom and the remainder of the session will take place in the training room. To start the session, the TCIT-C Coach will meet the teacher in the classroom to conduct classroom Coaching. Next, the teacher’s utilization of the PRIDE skills will be assessed by the TCIT-C Coach for five minutes while the teacher interacts with all the children in her classroom, using the PRIDE skills. During this time,



the Coach remains silent (no Coaching or feedback should occur during this time) and records (codes) the teacher's utilization of the PRIDE skills. At the end of the five-minute observation period, the Coach will prioritize Coaching goals (based on five-minute observation period) and provide brief feedback (i.e., less than 30 seconds) to the teacher. The TCIT-C Coach will then Coach the teacher in the classroom for five minutes. After classroom Coaching occurs, the teacher and the TCIT-C Coach, teacher, and a group of three children will leave the classroom and finish the session in the training room. Once in the training room: (a) the TCIT-C Coach will briefly explain (i.e., in less than 3 minutes) the Pause & Reply sequence to the three children; (b) briefly Coach CDI with the three children; (c) Coach TDI with three children for approximately 20 minutes (or until the child has complied with the last command given); (d) remind the teacher not to begin using Pause & Replay in the classroom until after the next session. It's important to have the training room set up like a classroom so the teacher can practice the Pause & Reply procedures, if necessary. Additionally, it's important to inform the teacher that this session may extend the typical one-hour session time if a child goes to Pause & Replay.

Lastly, the teacher should continue to practice using the PRIDE skills during 10 minutes of "TIPS Time" each day with two sets of three children at a time (five minutes per Trip). These small group teacher-child homework assignments are completed outside the classroom (or in a corner away from other children in the classroom) to limit interruptions or distractions. Providing the teacher with the best opportunity at enhancing the dyadic relationship with multiple children.

**TDI Coaching Session #2.** The primary goals for the second TDI Coaching Session are to: (a) continue classroom Coaching and achieve CDI mastery in the classroom; (b) have teacher practice TDI skills with closely supervised Coaching to assure that the teacher has a successful first TDI experience; (c) prepare for classroom implementation of TDI, at the end of this session, the teacher should be ready to implement TDI procedures in the classroom. The first 10 minutes of the minutes of the first TDI Coaching Session will take place within the classroom and the remainder of the session will take place in the training room. To start the session, the TCIT-C

Coach will meet the teacher in the classroom to conduct classroom Coaching. Next, the teacher's utilization of the PRIDE skills will be assessed by the TCIT-C Coach for five minutes while the teacher interacts with all the children in her classroom, using the PRIDE skills. During this time, the Coach remains silent (no Coaching or feedback should occur during this time) and records (codes) the teacher's utilization of the PRIDE skills. At the end of the five-minute observation period, the Coach will prioritize Coaching goals (based on five-minute observation period) and provide brief feedback (i.e., less than 30 seconds) to the teacher. The TCIT-C Coach will then Coach the teacher in the classroom for five minutes. After classroom Coaching occurs, the teacher and the TCIT-C Coach, teacher, and a group of three children will leave the classroom and finish the session in the training room. Once in the training room: (a) the teacher will briefly explain Pause & Reply sequence to the three children; (b) briefly Coach CDI with the three children; (c) Coach TDI with three children for approximately 20 minutes (or until the child has complied with the last command given); (d) remind the teacher that they will use Pause & Replay in the classroom after this session. It's important to have the training room set up like a classroom so the teacher can practice the Pause & Reply procedures, if necessary. Additionally, it's important to inform the teacher that this session may extend the typical one-hour session time if a child goes to Pause & Replay.

Lastly, the teacher should continue to practice using the PRIDE skills during 10 minutes of "TIPS Time" each day with two sets of three children at time (five minutes per Trip). These small group teacher-child homework assignments are completed outside the classroom (or in a corner away from other children in the classroom) to limit interruptions or distractions. Providing the teacher with the best opportunity at enhancing the dyadic relationship with multiple children.

**TDI Coaching Session #3.** The primary goals for the third TDI Coaching Session are to: (a) continue classroom Coaching and achieve CDI mastery in the classroom; (b) have teacher implement TDI skills in the classroom with close supervision and Coaching to assure that the teacher has a successful TDI experience. The majority of the TDI-3 Coaching Session should

take place within the classroom. The teacher and the Coach will meet briefly in the training room at the end of the Coaching session to debrief and plan for the next session. The third TDI Coaching Session begins with the teacher briefly explaining the Pause & Replay sequence to all the children in the class, different from previous sessions. Next, the TCIT-C Coach will conduct classroom Coaching. The teacher's utilization of the PRIDE skills will be assessed by the TCIT-C Coach for five minutes while the teacher interacts with all the children in her classroom, using the PRIDE skills. During this time, the Coach remains silent (no Coaching or feedback should occur during this time) and records (codes) the teacher's utilization of the PRIDE skills. At the end of the five-minute observation period, the Coach will prioritize Coaching goals (based on five-minute observation period) and provide brief feedback (i.e., less than 30 seconds) to the teacher. The TCIT-C Coach will then Coach the teacher in the classroom for five minutes. After classroom Coaching: the TCIT-C Coach will: (a) Coach TDI with three children for approximately 20 minutes (or until the child has complied with the last command given); (b) remind the teacher that they will use Pause & Replay in the classroom from now on; (c) instruct teachers to call immediately if they have any problems with TDI in the classroom (i.e., they should not wait until the next session); (d) for homework, teachers should continue to review the Pause & Replay procedures once per day with all the children during Circle Time.

In addition to reviewing Pause & Reply, the teacher should continue to practice using the PRIDE skills during 10 minutes of "TIPS Time" each day with two sets of three children at time (five minutes per Trip). These small group teacher-child homework assignments are completed outside the classroom (or in a corner away from other children in the classroom) to limit interruptions or distractions. Providing the teacher with the best opportunity at enhancing the dyadic relationship with multiple children.

**TDI Coaching Session #4.** The primary goals for the fourth TDI Coaching Session are to: (a) continue classroom Coaching and achieve CDI mastery in the classroom; (b) have teacher implement TDI skills in the classroom with close supervision and Coaching to assure that the

teacher has a successful TDI experience; (c) discuss TDI mastery in the classroom. The majority of the TDI-4 Coaching Session should take place within the classroom. The teacher and the Coach will meet briefly in the training room at the end of the Coaching session to debrief and plan for the next session. The session should begin with the teacher reviewing the Pause & Replay sequence with all children in the class (this should be occurring every day at this point). Next, the TCIT-C Coach will conduct classroom Coaching. The teacher's utilization of the PRIDE skills will be assessed by the TCIT-C Coach for five minutes while the teacher interacts with all the children in her classroom, using the PRIDE skills. During this time, the Coach remains silent (no Coaching or feedback should occur during this time) and records (codes) the teacher's utilization of the PRIDE skills. At the end of the five-minute observation period, the Coach will provide brief feedback to the teacher. The TCIT-C Coach will then code TDI for five minutes. At the end of the five-minute TDI observation period, the Coach will provide brief feedback to the teacher and prioritize Coaching goals. The TCIT-C Coach will then Coach TDI in the classroom for 15 minutes (or until a child has complied with the last command). After TDI Coaching, the TCIT-C will discuss TDI mastery criteria with the teacher. The Coach should explain that during a 5-minute period at the beginning of the session, teachers must give: at least 4 commands, of which at least 75% must be "effective" (i.e., they must follow the 8 guidelines of effective commands – direct, positively-stated, one at a time, specific, age-appropriate, polite), show at least 75% correct follow-through after effective commands (i.e., labeled praise following compliance, Pause & Replay warning for noncompliance), and lastly, if the child goes to Pause & Replay during the observation the teacher must successfully follow-through with the TDI procedure (i.e., the interaction must end with a labeled praise for compliance to the original command).

Additionally, remind the teacher to call immediately if they have any problems with TDI in the classroom (i.e., they should not wait until the next session), for homework, teachers should continue to review the Pause & Replay procedures once per day with all the children during

Circle Time. In addition to reviewing Pause & Reply, the teacher should continue to practice using the PRIDE skills during 10 minutes of “TIPS Time” each day with two sets of three children at time (five minutes per Trip). These small group teacher-child homework assignments are completed outside the classroom (or in a corner away from other children in the classroom) to limit interruptions or distractions. Providing the teacher with the best opportunity at enhancing the dyadic relationship with multiple children.

**TDI Coaching Session #5.** The primary goals for the fifth TDI Coaching Session are to: (a) achieve TDI mastery criteria in the classroom; (b) introduce “Conduct Rules” in TDI. The majority of the TDI-5 Coaching Session should take place within the classroom. The teacher and the Coach will meet briefly in the training room at the end of the Coaching session to debrief and plan for the next session. The session should begin with the teacher reviewing the Pause & Replay sequence with all children in the class. Next, the TCIT-C Coach will conduct classroom Coaching. The teacher’s utilization of the PRIDE skills will be assessed by the TCIT-C Coach for five minutes while the teacher interacts with all the children in her classroom, using the PRIDE skills. During this time, the Coach remains silent (no Coaching or feedback should occur during this time) and records (codes) the teacher’s utilization of the PRIDE skills. At the end of the five-minute observation period, the Coach will provide brief feedback to the teacher. The TCIT-C Coach will then code TDI for five minutes. At the end of the five-minute TDI observation period, the Coach will provide brief feedback to the teacher and prioritize Coaching goals. The TCIT-C Coach will then Coach TDI in the classroom for 15 minutes (or until a child has complied with the last command). After TDI Coaching, the TCIT-C Coach should discuss what kinds of behaviors may need a “Conduct Rule” (e.g., aggressive behaviors, destructive behaviors, or behaviors that are never acceptable under any circumstance). Once the teacher has decided on a conduct rule(s), the TCIT-C Coach will explain how to use the conduct rule (e.g., no warning for Pause & Replay occur if they break a Conduct Rule), and when to begin using the Conduct Rules.

Additionally, remind the teacher to call immediately if they have any problems with TDI in the classroom (i.e., they should not wait until the next session), for homework, teachers should continue to review the Pause & Replay procedures once per day with all the children during Circle Time. In addition to reviewing Pause & Reply, the teacher should continue to practice using the PRIDE skills during 10 minutes of “TIPS Time” each day with two sets of three children at time (five minutes per Trip). These small group teacher-child homework assignments are completed outside the classroom (or in a corner away from other children in the classroom) to limit interruptions or distractions. Providing the teacher with the best opportunity at enhancing the dyadic relationship with multiple children.

**TDI Coaching Session #6 and Beyond.** The primary goals of the sixth TDI Coaching Session and beyond are to: (a) achieve TDI mastery criteria in the classroom; (b) address any remaining classroom challenges. The majority of the TDI-5 Coaching Session should take place within the classroom. The teacher and the Coach will meet briefly in the training room at the end of the Coaching session to debrief and plan for the next session. The session should begin with the teacher reviewing the Pause & Replay sequence with all children in the class. Next, the TCIT-C Coach will conduct classroom Coaching. The teacher’s utilization of the PRIDE skills will be assessed by the TCIT-C Coach for five minutes while the teacher interacts with all the children in her classroom, using the PRIDE skills. During this time, the Coach remains silent (no Coaching or feedback should occur during this time) and records (codes) the teacher’s utilization of the PRIDE skills. At the end of the five-minute observation period, the Coach will provide brief feedback to the teacher. The TCIT-C Coach will then code TDI for five minutes. At the end of the five-minute TDI observation period, the Coach will provide brief feedback to the teacher and prioritize Coaching goals. The TCIT-C Coach will then Coach TDI in the classroom for 15 minutes (or until a child has complied with the last command). Review CDI skills classroom progress and TDI skills progress with teacher.

Lastly, the teacher should continue to practice using the PRIDE skills during 10 minutes of “TIPS Time” each day with two sets of three children at time (five minutes per Trip). These small group teacher-child homework assignments are completed outside the classroom (or in a corner away from other children in the classroom) to limit interruptions or distractions. Providing the teacher with the best opportunity at enhancing the dyadic relationship with multiple children.

**STICS Final Observation Session.** Similar to PCIT, TCIT-C requires ongoing data collection within the training room and ends with post-treatment assessment of TCIT-C skills. In the proposed study, post-assessment observations will take approximately one hour and will occur one week after a teacher has met CDI mastery criteria and TDI mastery criteria. Teachers will be again asked to complete three standard five tasks (i.e., Child Directed Interaction, Teacher Directed Interaction, and Clean-Up) with an individual child, “pairs” (pair of children), and in “triplets” (a group of three children).

After completing the three observation situations with an individual child, the teacher repeated the three situations with pairs of children, and again with three children. The participating individual child and pairs of children are randomly selected from classroom. The three children that the teacher selected in the initial STICS observation session, as the most challenging behaviors will return for post-assessment observations.

**Graduation Session.** The purpose of the last session, the graduation session, is to celebrate the teacher’s success with the TCIT-C Program and to have fun with the students. Typically, graduations are conducted in the classroom so all students are able to participate. The TCIT-C Coach should make this enjoyable for the teacher and students. Specifically, during the “graduation ceremony” recognize the teacher with lots of specific labeled praises, thank all the children for their efforts, thank supporting administration, colleagues, and staff for making the program a success.

## CHAPTER IV

### FINDINGS

*As stated above, due to the COVID-19 pandemic, schools were abruptly closed and Phase-2 of the TCIT-C intervention was not delivered. Thus, the results listed below reflect a mid-point evaluation rather than post-treatment analyses.*

#### **Visual Inspection**

The current study utilized a multiple-baseline designs across classrooms, and outcomes were examined graphically using visual inspection. According to Kazdin (2003), the evaluation of data utilizing visual inspection has the same goal as other statistical techniques (i.e., identify if the effects are consistent, reliable, and unlikely to have resulted from chance). Visual inspection depends on many characteristics of data, particularly the magnitude of changes across phases and the rate of these changes (Kazdin, 2003). The two characteristics related to the *magnitude* are changes in the *mean* (i.e., the mean rate of the behavior shows a change from phase to phase in the expected direction), and *level* (i.e., a change in behavior from the last part of the baseline phase and the first part of the intervention phase; Kazdin, 2003). The two characteristics related to *rate* are changes in *slope* (i.e., direction of the slope changes from baseline to intervention phase), and *latency* of the change (i.e., speed with which the change occurs when the conditions are changed from baseline to intervention). Overall, visual inspection has generated a body of research and outcomes that are reliable and replicable (Kazdin, 2003).



## **Kindergarten Teachers Acquisition of TCIT-C Skills Within the Training Room**

**Child-directed (PRIDE) skills with an individual child.** As stated above, prior to the TCIT-C intervention, teachers were observed interacting with a single child, a pair of children, and a small group of three children in a training room (i.e., room outside of the classroom environment). The following section describes each teacher's ability to acquire CDI skills in the first phase of the TCIT-C program. The section includes a series of figures focused on CDI skill acquisition with individual, pairs, and groups of children during the first phase (and not the second phase) of the TCIT-C program.

*Skill acquisition for teachers across classrooms.* During these baseline observations, all three teachers exhibited limited use of PRIDE skills with an individual child (Figure 1-3). However, each teacher demonstrated immediate improvements following the initiation of the TCIT-C program, and all three teachers' utilization of PRIDE skills with an individual child showed initial improvements prior to COVID-19. Teachers were able to demonstrate mastery criteria of PRIDE skills with an individual child with the exception of the teacher in classroom 3. The TCIT-C intervention was unexpectedly terminated due to the COVID-19 pandemic. Thus, the teacher in classroom 3 only participated in two coaching sessions prior to the schools being shut down for the remainder of the year. However, the teacher in classroom 1 met mastery criteria in CDI Coaching Session #6 (i.e., 12 Labeled Praises, 10 Reflections, 10 Behavioral Descriptions, and 1 Avoid skill), while the teacher in classroom 2 hit mastery criteria in CDI Coaching Session #4 (15 Labeled Praises, 10 Reflections, 23 Behavioral Descriptions, and 0 Avoid skills).

Figure 1. Acquisition of PRIDE Skills with Individual Child for Classroom #1

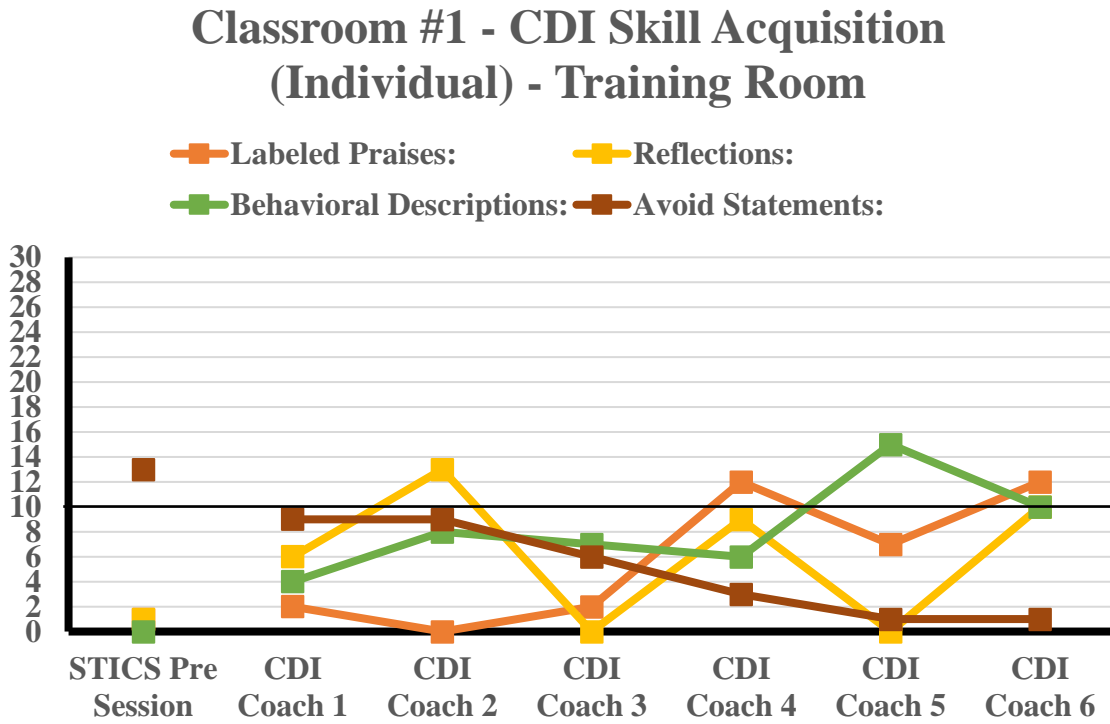


Table 2: Acquisition of PRIDE skills with an Individual Child for Classroom #1

Session	Baseline	CDI 1	CDI 2	CDI 3	CDI 4	CDI 5	CDI 6
<b>Skill</b>							
<b>Negative Talk</b>	0	0	0	0	0	0	0
<b>Commands</b>	3	3	1	2	1	0	0
<b>General Questions</b>	8	6	8	4	2	0	0
<b>Academic/Conduct Questions</b>	2	0	0	0	0	1	1
<b>Labeled Praise</b>	1	2	0	6	12	7	12
<b>Reflection</b>	1	6	13	0	9	0	10
<b>Behavior Description</b>	0	4	8	7	6	15	10
<b>Unlabeled Praise</b>	0	3	1	2	4	0	6
<b>Neutral Talk</b>	40	24	23	14	29	15	22

Figure 2. Acquisition of PRIDE Skills with Individual Child for Classroom #2

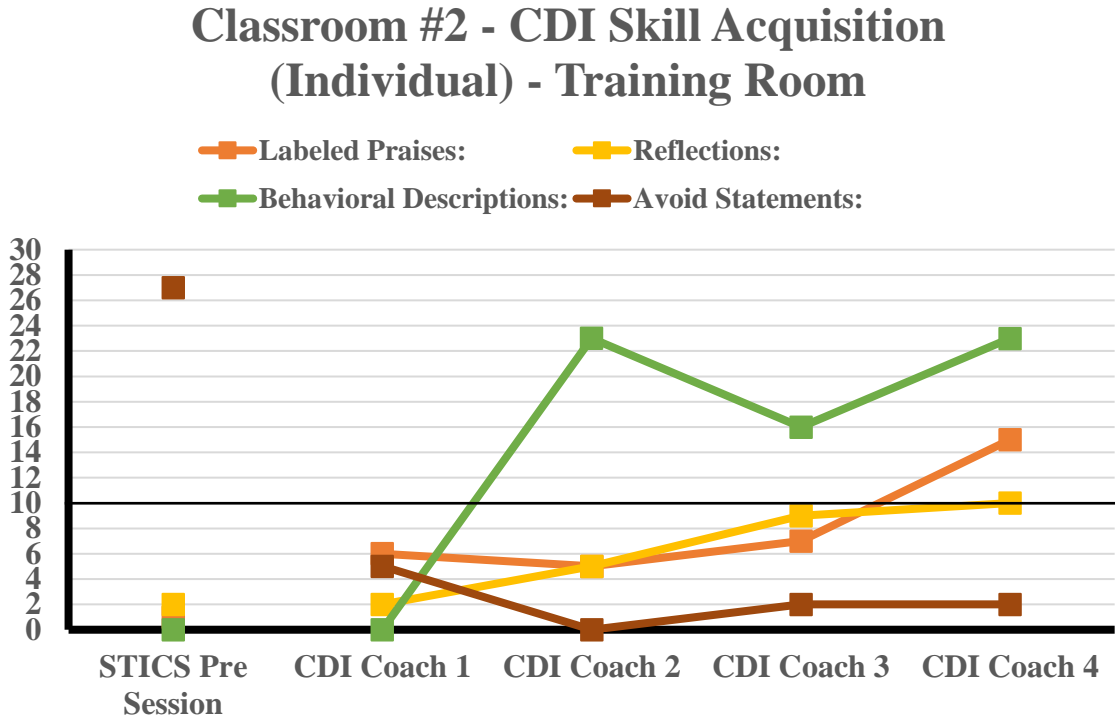


Table 3. Acquisition of PRIDE Skills with Individual Child for Classroom #2

Session	Baseline	CDI 1	CDI 2	CDI 3	CDI 4
<b>Skill</b>					
<b>Negative Talk</b>	0	0	0	0	0
<b>Commands</b>	2	1	0	0	0
<b>General Questions</b>	20	4	1	2	2
<b>Academic/Conduct Questions</b>	5	0	0	0	0
<b>Labeled Praise</b>	1	6	0	7	15
<b>Reflection</b>	2	2	5	9	10
<b>Behavior Description</b>	0	0	23	16	23
<b>Unlabeled Praise</b>	1	2	0	6	5
<b>Neutral Talk</b>	30	24	15	30	18

Figure 3. Acquisition of PRIDE Skills with Individual Child for Classroom #3

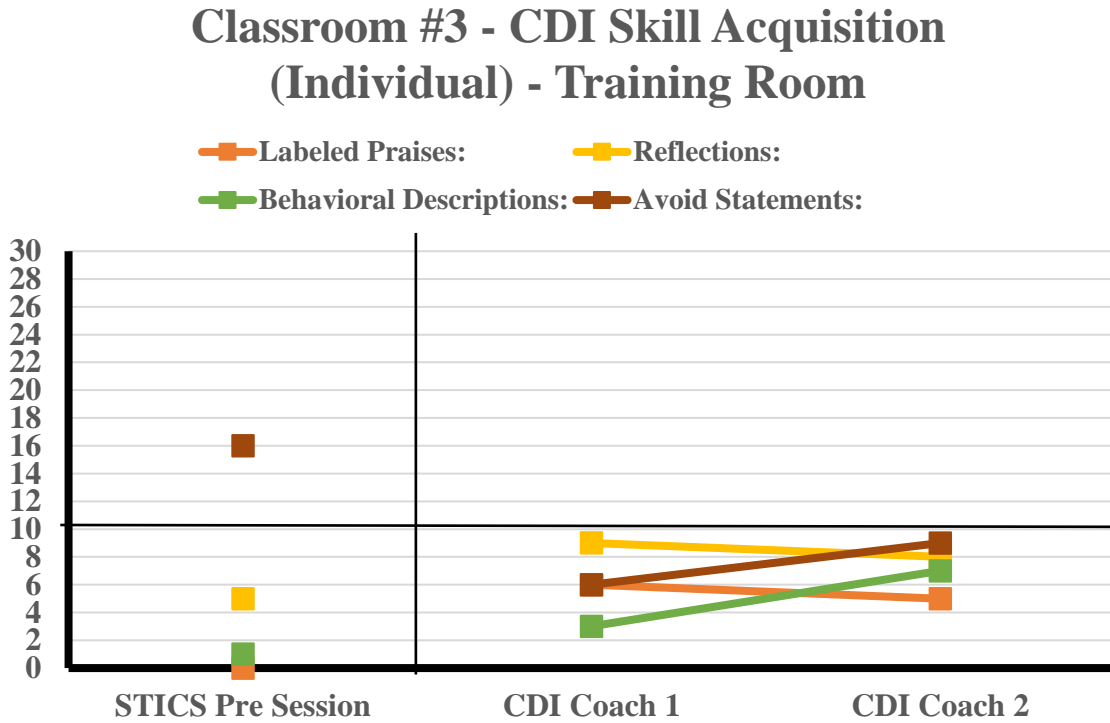


Table 4. Acquisition of PRIDE Skills with Individual Child for Teacher #3

Session	Baseline	CDI 1	CDI 2
<b>Skill</b>			
Negative Talk	0	0	0
Commands	2	3	1
General Questions	10	3	8
Academic/Conduct Questions	4	0	0
Labeled Praise	0	6	5
Reflection	5	9	8
Behavior Description	1	3	7
Unlabeled Praise	5	9	4
Neutral Talk	28	18	33

### **Child-directed (PRIDE) skills with pairs of children.**

*Skill acquisition for teachers across classrooms.* As previously mentioned, all teachers were also observed with pairs of children during baseline observations. All three teachers in exhibited limited initial use of PRIDE skills with pairs of children, (Figure 4-5). It is important to note, that classroom 3 is not shown due to not completing this portion of the training. Consistent with baseline observations with individual children, all teachers exhibited significant use of avoidance behaviors with pairs of children at baseline (Table5-6). However, skills with one child generalized to pairs of children as both teachers met mastery criteria within two sessions (i.e., at least 10 labeled praises, 10 behavioral descriptions, 10 reflective statements, and no more than a total of three questions, commands, or criticisms during a single, five-minute observation period). As noted above, the teacher in classroom 3 was unable to complete the first phase of the intervention due to the COVID-19 pandemic. Thus, the teacher in classroom 3 had not met mastery criteria with an individual child prior to the school closing for the remainder of the year.

Figure 4. Acquisition of PRIDE Skills with Pairs Child for Classroom #1

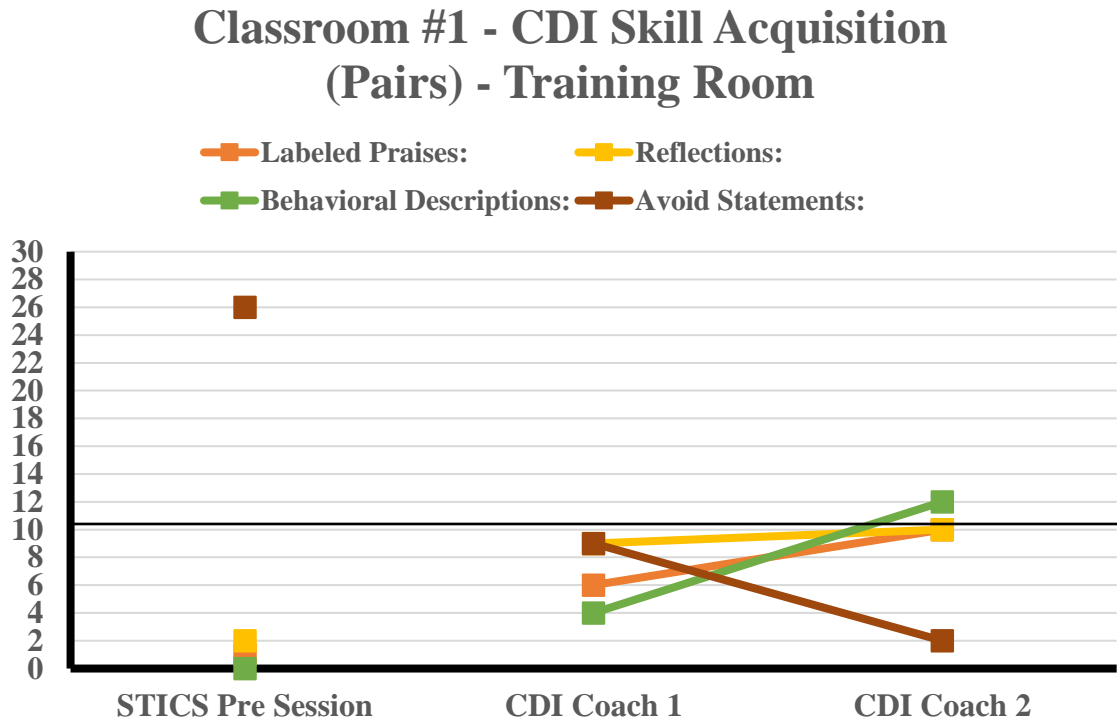


Table 5. Acquisition of PRIDE Skills with Pairs of Children for Classroom #1

Session	Baseline	CDI 1	CDI 2
<b>Skill</b>			
<b>Negative Talk</b>	0	1	0
<b>Commands</b>	0	2	0
<b>General Questions</b>	24	4	0
<b>Academic/Conduct Questions</b>	5	3	2
<b>Labeled Praise</b>	2	6	10
<b>Reflection</b>	1	9	10
<b>Behavior Description</b>	0	4	12
<b>Unlabeled Praise</b>	9	6	7
<b>Neutral Talk</b>	33	9	12

Figure 5. Acquisition of PRIDE Skills with Pairs Child for Classroom #2

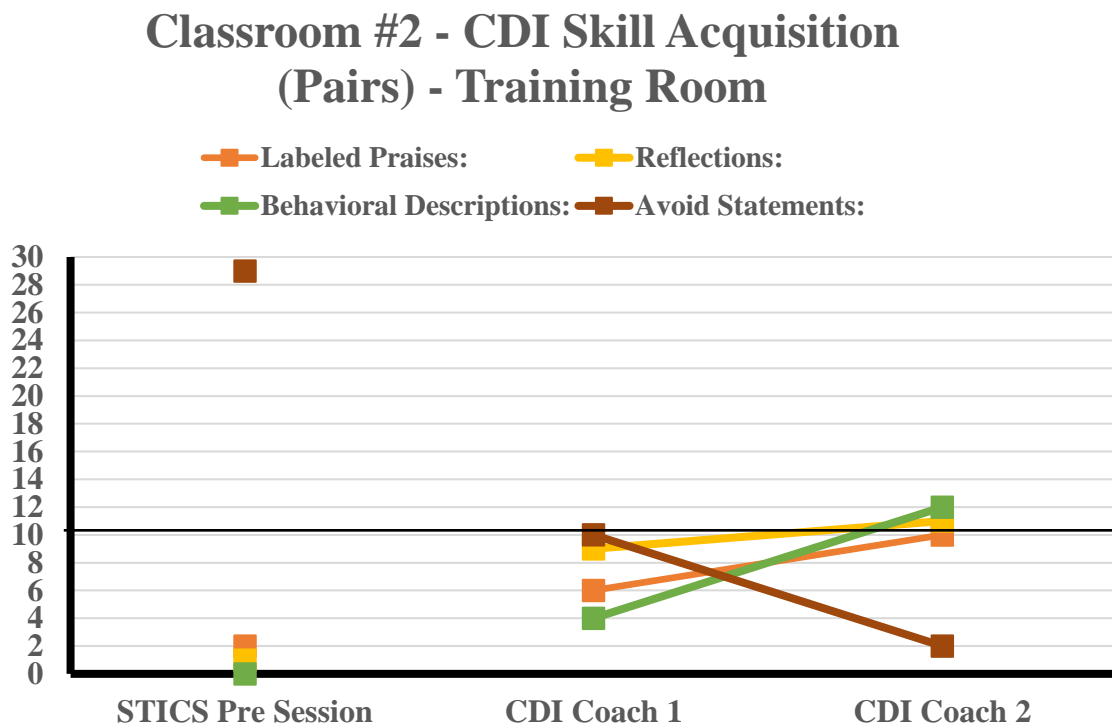


Table 6. Acquisition of PRIDE Skills with Pairs of Children for Classroom #2

Session	Baseline	CDI 1	CDI 2
<b>Skill</b>			
Negative Talk	0	1	0
Commands	0	2	0
General Questions	24	4	0
Academic/Conduct Questions	5	3	2
Labeled Praise	2	6	10
Reflection	1	9	11
Behavior Description	0	4	12
Unlabeled Praise	9	6	7
Neutral Talk	33	9	12

**Child-directed (PRIDE) skills with groups of three children.**

*Skill acquisition for teachers across classrooms.* During the baseline observations, all teachers were also observed interacting with a small group of three children during a five-minute period. Similar to results with individual and pairs of children, all three teachers exhibited limited use of PRIDE skills with groups of three children at baseline (Figure 6-7). The Teachers in classroom 1 and 2 were again able to meet mastery criteria with a group of three children within two coaching sessions. As noted above, the teacher in classroom 3 was unable to complete the first phase of the intervention due to the COVID-19 pandemic and thus data is unavailable for this classroom.

Figure 6. Acquisition of PRIDE Skills with Three Children for Classroom #1

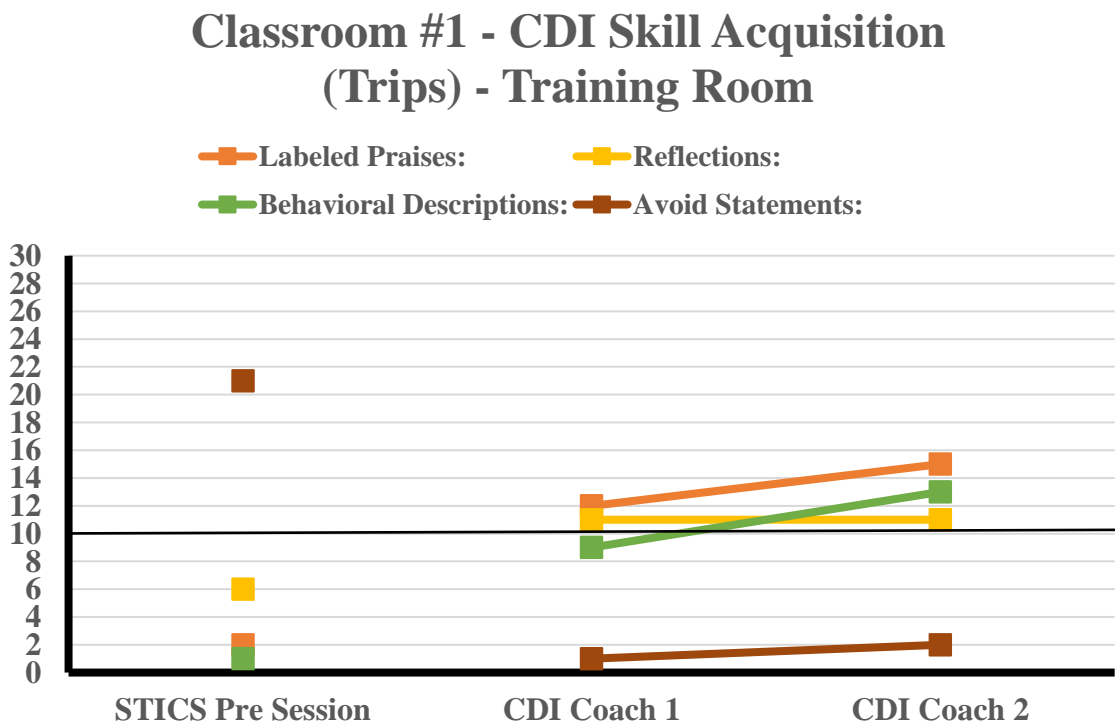




Table 7. Acquisition of PRIDE Skills with Groups of Three Children for Classroom #1

Session	Baseline	CDI 1	CDI 2
<b>Skill</b>			
Negative Talk	0	0	0
Commands	3	0	0
General Questions	14	0	0
Academic/Conduct Questions	0	0	1
Labeled Praise	1	12	14
Reflection	0	9	18
Behavior Description	0	15	16
Unlabeled Praise	5	6	7
Neutral Talk	20	21	23

Figure 7. Acquisition of PRIDE Skills with Three Children for Classroom #2

### Classroom #2 - CDI Skill Acquisition (Trips) - Training Room

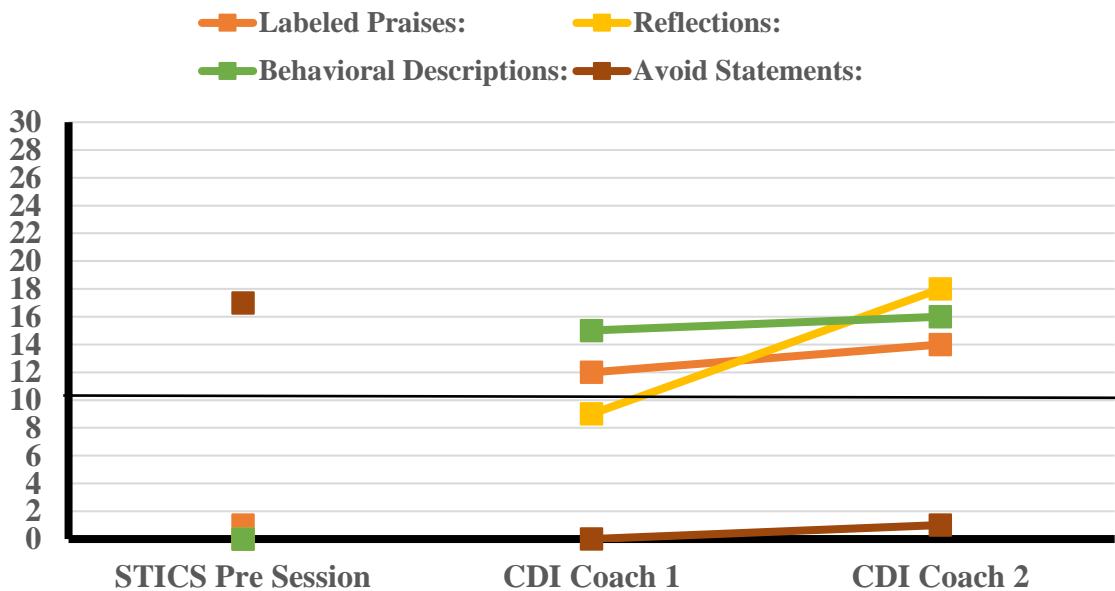


Table 8. Acquisition of PRIDE Skills with Groups of Children for Classroom #2

Session	Baseline	CDI 1	CDI 2
<b>Skill</b>			
<b>Negative Talk</b>	0	0	0
<b>Commands</b>	3	0	0
<b>General Questions</b>	14	0	0
<b>Academic/Conduct Questions</b>	0	0	1
<b>Labeled Praise</b>	1	12	14
<b>Reflection</b>	0	9	18
<b>Behavior Description</b>	0	15	16
<b>Unlabeled Praise</b>	5	6	7
<b>Neutral Talk</b>	20	21	23

**Teacher-directed skills with individual, pairs, and groups of three children.** The second phase of the intervention was proposed in the initial study to complete with all three teachers. As noted above, the COVID-19 pandemic terminated the delivery of the intervention as schools closed for the year and did not resume consistent in person teaching the following school year.

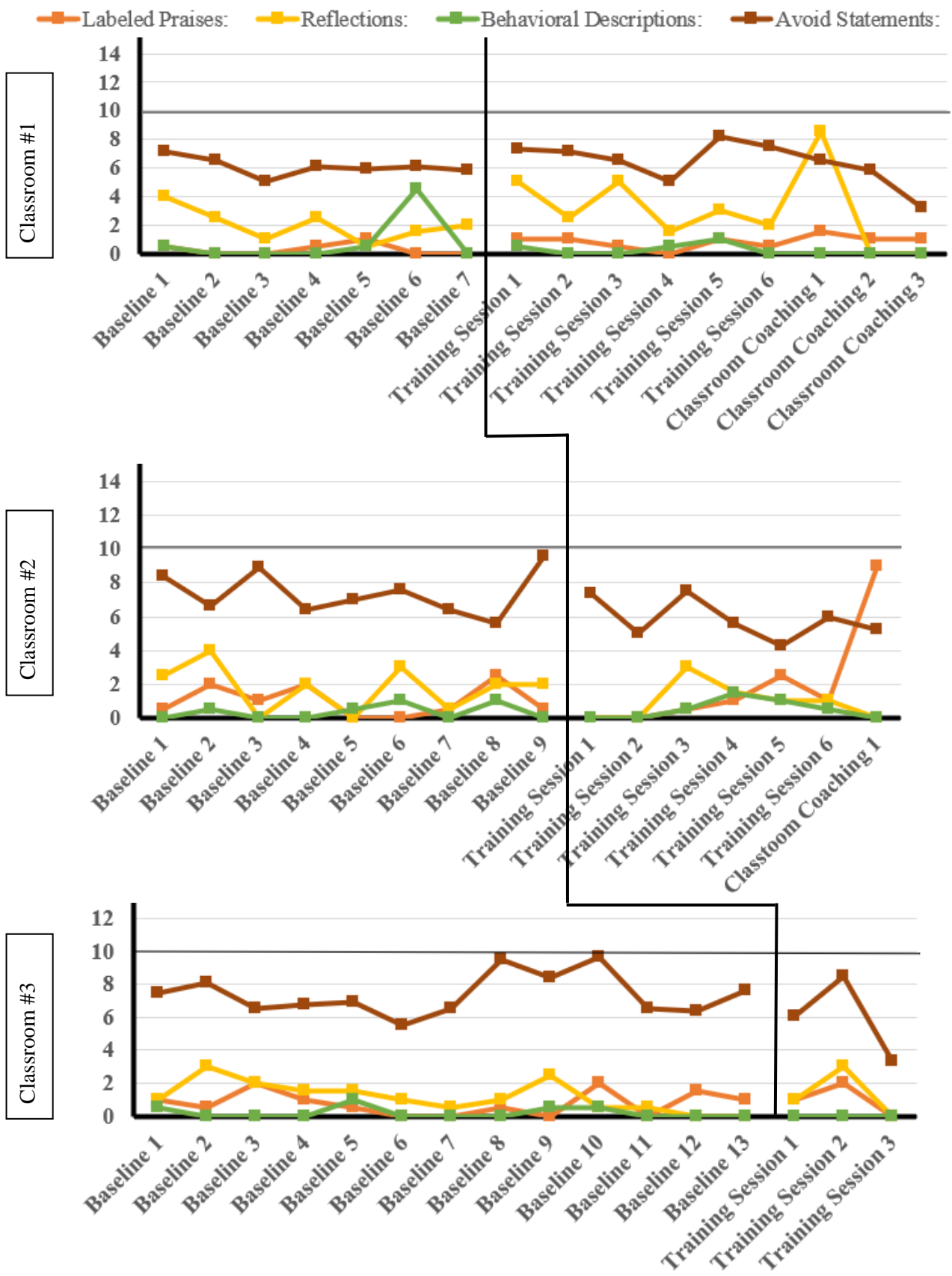
### **Generalization of TCIT-C Skills to the Classroom**

#### **Child-directed (PRIDE) skills.**

*Generalization of CDI skills for teachers across classrooms.* Overall, teachers exhibited limited utilization of PRIDE skills in their classroom at mid-point. Teachers did demonstrate a decrease in use of Avoid skills across treatment classrooms. It's important to note that the intervention is designed to implement coaching in the classroom to increase generalization. However, due to COVID-19 teachers participated in limited coaching sessions in the classroom (i.e., three coaching sessions in classroom 1 and one coaching session in classroom 2). Classroom three did not participate in classroom coaching because the teacher had not mastered skills in the training room at the time the intervention was terminated. It is important to note that each teacher's utilization of PRIDE skills in the classroom was compared to the control classroom who

did not participate in the TCIT-C program. The control classroom remained stable across PRIDE skills and AVOID skills, thus showing no change across time.

Figure 8. Utilization of PRIDE Skills for Classroom #1,2, & 3



## **Observable Changes in Child Behaviors in the Classroom**

**Social and behavioral competencies.** Children in all classrooms were observed using the BOPS observation system. As stated above, the BOPS has 22 different observable behaviors that are separated into subscales and the instrument was designed to capture both prosocial and challenging behaviors. For the purpose of this study, the Prosocial Behaviors with Teachers, Prosocial Behaviors with Peers, and Challenging Behaviors subscales were utilized. Using the BOPS, socially competent children would demonstrate several behaviors in both the Prosocial Behaviors with teachers (i.e., plays/shares with teacher(s), interacts with teacher(s), follow instruction from teacher(s), being on task during activities) and Prosocial Behaviors with Peers subscales (i.e., interacts/plays/shares with peer(s), communicates with peer(s)). Behaviorally competent children would also demonstrate behaviors in the Prosocial Behaviors with Teachers subscale in addition to avoiding all the behaviors within the Challenging Behaviors subscale (i.e., noncompliance/defiance, completes consequences for challenging behaviors, ignores/leaves class activities, physically disruptive behaviors, verbally disruptive behaviors, destructive behavior, verbal aggression/profanity toward peer, physical aggression toward peer, verbal aggression/profanity toward teacher, physical aggression toward teacher).

It was hypothesized that increased utilization of TCIT-C skills by Kindergarten teachers would improve the social and behavioral functioning of Kindergarten children. Thus, we would expect higher scores on the Prosocial Behaviors with Teachers and Prosocial Behaviors with Peers subscales, and decreased scores on the Challenging Behavior subscale over time. When interpreting results, it is important to remember that the BOPS coding system consists of a 5-minute observation period separated into 30-second intervals (i.e., ten, 30-second observation recording intervals). Behaviors are coded as present or absent (rather than a frequency count) during each 30 second period. Therefore, an increase of one point on the BOPS would indicate that the child (or children) demonstrated an additional prosocial or disruptive behavior at some

point during the 30 second interval. Which is substantial when behaviors are only observed for a total of 5 minutes.

*Overall classroom behaviors across classrooms.* Overall, children demonstrated a limited increase in social and behavioral competence in the classroom. More specifically, the Prosocial Behaviors with Teachers and Peers showed minimal changes but appeared to be headed in the right direction following limited classroom coaching sessions in the CDI phase. Across groups of children (i.e., High, Moderate, and Easy) and classrooms, challenging behaviors were relatively infrequent. The frequency of Challenging Behaviors subscale score across classrooms was low and remained constant during the CDI phase (Figure A1-A12 in Appendix A).

At the classroom level, children in Classroom #1 who were initially identified with having the highest levels of disruptive behaviors, a limited frequency of challenging behaviors were observed throughout baseline and through early stages of the intervention. The frequency of both prosocial behaviors with teachers and peers were observed soon after introducing the intervention in the training room and the frequency remained steadily higher than baseline throughout the initial part of the intervention (Figure A-1 in Appendix A). In a similar manner, for children whose behaviors were initially identified as moderately challenging behaviors exhibited a minimal frequency of challenging behaviors were observed. For moderate, prosocial behaviors with teachers remained relatively stable across time and there was variability in the observed frequency of prosocial behaviors with peers (Figure A-2 in Appendix A). Not surprising, observations revealed relatively minimal behavioral challenges for the children identified as having the least amount of challenging behaviors at baseline and across the first phase of the intervention (Figure A-3 in Appendix-A).

Children in Classroom #2 who were initially identified as having the most challenging behaviors demonstrated a low number of Prosocial Behaviors with Teachers and Peers during baseline and remained relatively stable across the first phase (i.e., CDI) of the intervention. Notably, the frequency of challenging behaviors were relatively infrequent for students who were

reported as having the most challenging behaviors. Thus, challenging behaviors remained stable over time and showed little to no change across the first phase of the intervention (Figure A-4 in Appendix A). Children who were reported as having a moderate number of challenging behaviors, demonstrated a low number of prosocial behaviors with Teachers and Peers during baseline and remained stable during the CDI phase. Children identified as having a moderate number of challenging behaviors also demonstrated a low number of challenging behaviors at baseline and across the initial phase of the intervention (Figure A-5 in Appendix A). As expected, children who were reported as having the least amount of challenging behaviors, were observed as having few to no challenging behaviors at baseline and across the initial phase of the intervention (Figure A-6 in Appendix A).

As noted above, classroom 3 did not complete the first phase of treatment and completed significantly less training sessions than teachers in classroom 1 and 2. However, similar to children in classroom 1 and 2, children in Classroom 3 initially identified as having the greatest number of challenging behaviors, demonstrated a low number of observed challenging behaviors throughout baseline and during the first few sessions of the intervention. Children identified as having the highest frequency of challenging behaviors, demonstrated a downward trend across baseline and during the first few sessions of the intervention for prosocial behaviors with peers. Children in the high group were observed as having a higher a number of prosocial behaviors with teachers than peers and this remained relatively stable across baseline and treatment sessions (Figure A-7 in Appendix A). Similar observations were made for children who were initially identified as having a moderate number of challenging behaviors (Figure A-8 in Appendix A). Children identified as having the least number of challenging behaviors revealed stable observations for prosocial behaviors with teachers. However, for prosocial behaviors with peers, observations were variable. Not surprising, children reported as having a low number of challenging behaviors, demonstrated low numbers at baseline and across time (Figure A-9 in Appendix A).

In the control classroom, children identified as having a high number of challenging behaviors demonstrated a low number of challenging behaviors across time. Children in the high group, initially demonstrated a high number of prosocial behaviors with peers but quickly decreased to low frequency during week 2 and remained relatively consistent over time. Children in the high group demonstrated a moderate number of prosocial behaviors with teachers initially and across time (Figure A-10 in Appendix A). Children who were initially identified as having a moderate number of challenging behaviors demonstrated little to no challenging behaviors at baseline and across weeks. Children in the moderate group initially demonstrated a low number of prosocial behaviors teacher, showing a slight increase in week 2 and remaining stable across time (Figure A-11 in Appendix A). In a similar manner, children identified as having a moderate number of challenging behaviors demonstrated a relatively low number of prosocial behaviors with peers and showed a decrease over time. Children who were initially identified as having a low number of challenging behaviors, relatively stable across all three subscales (i.e., prosocial behaviors with teacher, prosocial behaviors with peers, and challenging behaviors; Figure A-12 in Appendix A).

### **Reported Changes in Child Behaviors in the Classroom**

This study included two secondary, or exploratory research questions. The purpose of the first exploratory question was to explore converging evidence for the TCIT-C intervention and investigate if Kindergarten teachers report improved social and behavioral competence for Kindergarten students following the TCIT-C intervention. The purpose of the second exploratory question was to determine if teachers' report increased self-efficacy, increased overall job satisfaction, and decreased stress related to teaching after learning positive interaction and behavior management skills from the TCIT-C intervention.

#### **Teacher-report measures**

**Behavior Assessment System for Children, Third Edition (BASC-3).** As stated above, all teachers completed several pre- and mid-point treatment measures on 12 participating children



in their classroom. Overall, a one-way repeated measure analysis of variance (ANOVA) was conducted for each classroom to evaluate the null hypothesis that there is no change in participants' Externalizing, Internalizing, Behavioral Index, and Adaptive Skills scores when measured before and after participation in the TCIT-C intervention (N=12). The results of the ANOVA indicated a significant improvement across all scales in classroom 1 and 2 (Table B1-B-2 in Appendix B). In classroom 3, significant improvements were shown across all scales with the exception of the Externalizing scale (Table B-3 in Appendix B). The control classroom showed significant improvements across all scales despite not receiving the TCIT-C intervention (Table B-4 in Appendix B).

Pre-treatment T-scores on the BASC-TRS were used to separate students into two groups: (1) children with high levels of behavioral challenges (i.e., children whose pre-treatment BASC T-scores were greater than or equal to 60 on the clinical scales and less than or equal to 30 on the adaptive scale); and (2) children with low levels of behavioral challenges (i.e., children whose pre-treatment BASC T-scores were less than 60 on the clinical scales and greater than 30 on the adaptive scales). Scores were analyzed using composite scores from the clinical scales (i.e., Externalizing, Internalizing, and Behavioral Index) and the adaptive scale.

In classroom 1, children who were reported as exhibiting the highest number of challenging behaviors at pre-treatment were reported as having little to no changes on all clinical scales and the adaptive scale except for the Externalizing Behavior scale (Table B-5-B-7 in Appendix B). Children with a high number of behavioral problems were reported as having significantly lower scores on the Externalizing Behavior scales at mid-point treatment (Table B-5 in Appendix B). As noted above, all other scales remained stable or minimal improvements were reported. However, children who were reported as having a low level of challenging behaviors were reported as having significantly lower scores on all clinical scales (i.e., Externalizing, Internalizing, Behavior Index) but no significant difference were reported on the Adaptive Skills scale (Table B-8-B-11 in Appendix B).

In classroom 2, when looking at children who were reported as having the highest number of challenging behaviors at pre-treatment, demonstrated significant differences across clinical scales and the adaptive scale. Thus, children in classroom 2 who were experiencing At-Risk or Clinical levels of behavioral problems decreased and were within the Average range at mid-point evaluation (Table B-12-B-15 in Appendix B). Additionally, children who were reported in the At-Risk or Clinically Significant range on Adaptive Skills scale showed improvements and were within the Average range at mid-point evaluation (Table B-15 in Appendix B). Children experiencing low levels of challenging behaviors demonstrated significant differences on all scales except for the Internalizing Behaviors scale (Table B-16-B-19 in Appendix B). Thus, although children were not experiencing high levels of behavioral challenges, teacher reports indicated improvements at mid-point evaluation.

In classroom 3, children who were reported in the At-Risk or Clinically Significant range at pre-treatment were reported as having a significant decrease on the externalizing and behavioral index scales (Table B-20 & B-22 in Appendix B). However, no significant differences were reported on the Internalizing and Adaptive Skills scales (Table B-21 & B-23 in Appendix B). Children reported as having low levels of challenging behaviors demonstrated significant changes across all scales except the Externalizing Behaviors scale (Table B-24-B-27 in Appendix B). Similar to children in classroom 2, children exhibiting low levels challenging behaviors showed significant improvements on all scales with the exception of the Externalizing Behaviors scale at mid-point evaluation.

In the control classroom, no significant differences were found for children who were reported in the At-Risk or Clinically Significant range at pre-treatment on the clinical scales or on adaptive skills (Table B-28-B-31 in Appendix B). However, children who were reported as having low levels of challenging behaviors again demonstrated significant improvements across all scales at mid-point evaluation, with the exception of the Externalizing Behaviors scale. (Table B-32-B-35 in Appendix B).

When considering the classrooms who received intervention in comparison to the control classroom, no significant differences were found overall (Table B-36 in Appendix B). However, when evaluating each individual classroom to the control classroom, significant differences were found in classroom one for all clinical scales (Table B-38 in Appendix B). No significant differences were reported for classroom 2 and 3 in comparison to the control classroom. (Table B-38-B-39 in Appendix B).

***Sutter-Eyberg Student Behavior Inventory – Revised (SESBI-R)***. Overall, a one-way repeated measure analysis of variance (ANOVA) results indicated significant improvements across the Intensity scales on the SESBI-R in classroom 1 and the control classroom (Table B-40 & B-43 in Appendix B). Significant differences on the problem scale were found in classroom 2 (Table B-41 in Appendix B). Thus, teachers in classroom 1 and the control classroom reported a decrease in the intensity of problem behaviors from pre-treatment to mid-point evaluation. While the teacher in classroom 2 reported a similar level of intensity but a decrease in overall problem behaviors.

Pre-treatment Raw Scores on the SESBI-R were used to separate children into two groups (i.e., children whose pre-treatment SESBI-R Raw scores were greater than or equal to 151). When looking at children with high levels of behavioral problems, the TCIT-C program was associated with significant declines in the intensity of challenging behaviors for children in the classrooms who received the most intervention (i.e., classroom 1 and 2; Table B-44-B-45 in Appendix B). However, children with less behavior problems did not demonstrate significant declines in the intensity of challenging behaviors at mid-point evaluation with the exception of the control classroom (Table B-48-B-51 in Appendix B). Children who were identified as most problematic behaviors at pre-treatment were not reported as having a significant decrease in problematic behavior at mid-evaluation with the exception of classroom three. Classroom 3 did report a significant difference in problematic behaviors for children experiencing the high levels of challenging behaviors. (Table B-46 in Appendix B).

When considering the classrooms who received intervention in comparison to the control classroom, no significant differences were found overall (Table B-52 in Appendix B). However, when evaluating each individual classroom in comparison to the control classroom, significant differences were found in classroom 2 for intensity and problem scales (Table B-54 in Appendix B). Thus, children showed a significant decrease in problematic behaviors and also demonstrated a significant decline in the intensity of behaviors in comparison to the control classroom.

### **Changes in Perceptions of Teaching Efficacy, Overall Job Satisfaction, and Teacher Stress**

Overall, teacher's in classroom 1 and 2 reported an increase of self-efficacy following the first phrase of the intervention. Teacher in classroom 1 reported a 10-point increase at mid-point evaluation, while the teacher in classroom 2 reported a 16-point increase at mid-point evaluation. Teachers in classroom 3 and the control classroom both reported a decrease in self-efficacy at mid-point evaluation. It's important to note, that the teacher in classroom 3 only received one week of the intervention prior to school closures. A 34-point decrease was reported at mid-point evaluation for classroom 3. Notably, the teacher in the control classroom (i.e., did not receive the intervention), reported a 70-point decrease at mid-point evaluation (Table C-1 in Appendix C).

All teachers reported an increase in teacher satisfaction with the exception of the teacher in classroom 3 who reported a 7-point decrease. The teacher in classroom 1 reported an 8-point increase, classroom 2 reported a 10-point increase, and the control classroom reported a 12-point increase. Teachers in classroom 1 and 2 completed the first phrase of the intervention and thus reported an increase in overall satisfaction following the first phrase of intervention. The teacher in classroom 3 completed one week of the intervention and reported a 7-point decrease in overall job satisfaction. As noted above, the control classroom did not receive the intervention but did report a 12-point increase in overall job satisfaction (Table C-2-C-3 in Appendix C).

When considering teacher stress, results were mixed. Thus, two teachers reported a decrease and two teachers reported an increase in teacher stress. Teachers in classroom 2 and the

control classroom reported a decrease in teacher stress. With classroom 2 reporting a 45-point decrease and the control classroom reporting a 6-point decrease in overall stress. Teacher's in classroom 1 and 3 reported an increase in overall stress related to teaching. Classroom 1 and 3 both reported a 19-point increase in overall stress. As noted above, teacher reports were completed approximately one month after schools were closed due to COVID-19. Thus, it is difficult to determine if the above results are related to the intervention or the pandemic. It's possible that teacher's reported an increase in stress due to the current state of the country and the many unknown variables that were taking place during this time in history (e.g., not knowing if schools were going to reopen, not knowing how to deliver instruction virtually to their students, or overall stress related to the COVID-19 virus). Detailed results are shown below in Appendix C. When considering the results on the teacher self-report measures, it's important to note that scores on the Teacher Efficacy scale and Teacher satisfaction scale, higher scores indicate more teacher efficacy and overall job satisfaction. While increased scores on the Teacher Stress scale indicate an increase in overall stress, thus on this scale we hypothesized that scores would decrease following the intervention.

## CHAPTER V

### CONSLUSION

Overall, research findings indicated that Kindergarten teachers were able to acquire and master the TCIT-C skills with individual and small groups of children during training sessions. However, the TCIT-C skills acquired in the training room showed limited generalization to the classroom environment at mid-point evaluation. Although, the utilization by Kindergarten teachers was limited, it was associated with some improvements in social and behavioral competence for Kindergarten children in the classroom setting. These improvements were not observed but were reported by Kindergarten teachers. Equally important, the TCIT-C intervention appeared to be well received by Kindergarten teachers, many of whom reported increased efficacy and satisfaction although they were unable to complete the training.

#### **Acquisition of TCIT-C Skills in the Training Room**

The first primary aim for the study was based on the PCIT intervention and required teachers to demonstrate mastery criteria of both teacher-child relationship enhancement skills and behavior management skills in order to successfully complete the entire program. In fact, similar to the PCIT protocol (e.g., McNeil & Hembree-Kigin, 2011; PCIT International Manual, 2011), teachers had to demonstrate mastery criteria of relationship enhancement (or PRIDE) skills before progressing to the second treatment phase. The current study is only able to address the first primary research question (i.e., are Kindergarten teachers able to demonstrate, at a mastery level criteria, positive teacher-child interaction skills in the training room with individual and small groups of children?).

Due to COVID-19, the second phase of the intervention was unable to be completed. Thus, we cannot answer and/or address the second primary research question (i.e., are Kindergarten teachers able to demonstrate, at a mastery level criterion, behavior management skills in a training room environment with both individual and small groups of Kindergarten students?). Consistent with the first primary hypothesis, participating teachers were able to meet CDI mastery criteria with an individual child with the exception of the teacher in classroom 3, who was unable to complete this phrase prior to school closures. Additionally, two out of three teachers were also able to demonstrate CDI mastery level skills with both pairs and groups of three children. The teacher in classroom 2 was again, unable to meet CDI mastery with pairs and small groups of children due to limited time in the training room prior to termination of the study.

A component that was not formally evaluated but likely impacted the results between the two classrooms that completed the first phase of the intervention is homework compliance. At mid-point evaluation, the teacher in classroom 1 completed their daily Special Time homework assignments approximately 40% of the time (approximately two out of five days), whereas the teacher in classroom 2 completed homework approximately 80.0% of the time (approximately four out of five days). It is important to recognize that early childhood educators have an increasingly demanding daily schedule (even without additional teacher trainings). However, the PCIT literature has found that families are more successful when they complete most of their homework, whereas families who complete homework fewer than three times per week (42.9%) may not progress through treatment (McNeil & Hembree-Kigin, 2011).

### **Generalization of TCIT-C Skills to the Classroom Environment**

The second primary aim of the present study was to determine if the skills acquired in the training room would generalize to the classroom environment. Previous adaptations of PCIT for the classroom setting have demonstrated promising findings. Several studies, either did not collect classroom observations (McIntosh et al., 2000) or collected them during the same activity (circle time; Filcheck et al., 2004), or were limited to a single post-treatment observation where

the teachers were aware of the observers (Tiano & McNeil, 2006). Other studies conducted observations during a variety of activities (e.g., circle time, lessons, free play, transition periods) and found moderate improvements in teachers' positive attention skills in the classroom following training in CDI skills (Lyon et al., 2009; Campbell 2011). Similar to Filcheck and colleagues, the present study observed teachers at the same time of day and observations typically occurred during the same activity (i.e., morning meeting). It is possible the limited variability in which classroom observations were conducted may have impacted the lack of change in skill utilization observed in the classroom.

The second primary hypothesis, all the Kindergarten teachers who complete the TCIT-C program will demonstrate an increase in utilization of CDI skills in their classroom is unable to be answered with the current study. While we provided the data that was able to be collected, the results for this question are incomplete. Thus, teachers were unable to complete the TCIT-C intervention due to COVID-19 so it is impossible to determine the level of utilization that may have occurred in participating classrooms. However, the current study was able to evaluate the skills utilization at mid-point evaluation for two of the three teachers, however, it is important to note that the utilization of skills typically takes place after teachers have received several coaching sessions in their actual classrooms. At mid-point evaluation, limited classroom coaching sessions had occurred. More specially, only three coaching sessions occurred in classroom 1 and only one coaching session occurred in classroom 2. While skills appeared to be headed in a positive direction, we are unable to conclude that skill utilization occurred.

### **Observable Changes in Social and Behavioral Competence**

A common limitation in studies is the reliance on a single measure that is often completed by the teacher (or caregiver) to measure changes in children's behavior (Domitrovich, Cortes, & Greenberg, 2007). Childhood behaviors are one of many multifaceted constructs that cannot be completely understood from a single form of assessment, and a variety of assessment techniques are essential (Kazdin, 2003). Live observations are considered to be the hallmark of



behavioral assessments (Bagner, Harwood, & Eyberg, 2006) and the gold standard for objectivity in behavioral research, particularly as measures of treatment effects (Pelham, Fabiano, & Massetti, 2005).

The current study also included two secondary, or exploratory research questions. In order to answer the first secondary question (i.e., do Kindergarten teachers report improved social and behavioral competence for Kindergarten students following the TCIT intervention?). The current study is unable to address this question in full but available data was used to determine changes occurring at mid-point evaluation. Thus, the present study attempted to utilize independent behavior observations to corroborate teacher reports of behavioral changes. Not surprisingly, results are variable at mid-point evaluation. Teacher reports indicate some improvements in classroom behavior but results across scales and classrooms are inconsistent. Further, classroom observations show little to no change at mid-point evaluation and majority of the change is improvements in prosocial behaviors with teachers and peers. These results are not surprising, due to the nature of the intervention. The TCIT-C program is a teacher training program, designed to provide teachers with relationship-enhancement skills and effective behavior management strategies. Additionally, challenging behaviors (e.g., aggression, disruptive behaviors, defiance) were relatively rare across all classrooms, and typically exhibited by two to four children in each classroom. However, the current study is unable to evaluate the changes that may have occurred across the course of treatment and at the completion of the intervention.

### **Teacher Reports of Changes in Social and Behavioral Competence**

The TCIT-C program was designed to increase school readiness by improving social and behavioral competence for Preschool and Kindergarten children; competencies identified as independent and important predictors of future academic achievement (Webster-Stratton et al., 2008). The present study used teacher-report measures to gain a more comprehensive understanding of changes in social and behavioral competence. Secondary Research Question #1 was included to provide converging evidence for the TCIT intervention and investigate whether

changes reported on teacher assessments match the behavior changes observed in the classroom. Prior to the TCIT-C program, each Kindergarten teacher reported ongoing behavioral problems for at least three (if not more) children in their classroom, which is consistent with previous findings that challenging student behaviors in the general education setting (e.g., inattention, impulsivity, and noncompliance) range between 12% to 20% (Fabiano et al., 2013).

Overall, significant improvements in social and behavioral functioning were reported on teacher-report measures at mid-point evaluation. Findings from the study indicate that children with more behavioral problems at pre-treatment had the largest improvements reported at mid-point evaluation but this was not consistent across classrooms. That is, most of the changes were found in children who were identified as having at least moderate behavioral problems at the start of the TCIT-C program. While, significant improvements were not reported across classrooms, it is important to note that the TCIT-C program was not associated with increased problematic behaviors (or decreased social competence) for children who initially had limited problems. In fact, some classrooms reported significant improvements who children who exhibited a low number of challenging behaviors.

### **Teaching Efficacy, Job Satisfaction, and Teacher Stress**

The secondary exploratory question attempted to examine the relationship between the TCIT-C program and teachers' perceptions of efficacy and satisfaction. The current study included this question due to current findings that disruptive behaviors are one of the single greatest challenges teachers face in providing quality programming (Arnold, McWilliams, & Arnold, 1998). Further, repeated conflict and disciplinary problems with children who are disruptive (or difficult to manage) has been linked to increased emotional distress/exhaustion, occupational dissatisfaction, "burnout," and a common reasons teachers leave the profession (Brownell & Smith, 1992; Cazares, 2009; Hastings & Bham, 2003; Morris-Rothschild & Brassard, 2006).

Overall, results were variable and difficult to interpret due to the time the mid-point evaluations were administered. Thus, a global pandemic was taking place and schools were closed at the time the mid-point evaluations were collected from teachers. Teachers were attempting to deliver instruction virtually for the first time in history and this may have impacted their scores. This will be further addressed in the limitations section.

However, the two teachers who were able to complete the first phase of the intervention did report an increase in efficiency and overall job satisfaction. Teacher in classroom 2 and the control classroom reported a decrease in stress related to teaching. While teachers in classroom 2 and 3 reported an increase in overall stress. As noted above, due to the time these measures were completed, it is not possible to exclude external factors that are unrelated to the intervention and study entirely.

### **Limitations and Future Directions**

Although this study has a number of strengths including a multi-method and multi-informant assessment approach, it also has several limitations. First, due to limited resources (e.g., limited number of available TCIT coaches and time constraints), the TCIT-C program could only be delivered to three teachers. As stated several times above, study results were further limited due to COVID-19. In the middle of the study, schools were closed, and it was unknown if they would re-open before the end of the school year. The country entered a global pandemic and schools remained closed with the future of the upcoming school year unknown. The intervention was discontinued but mid-point data was able to be collected via mail. Due to the abrupt ending of the TCIT-C intervention. Many limitations exist within the data included in the current study.

The teacher in classroom 3 was unable to complete the first phase of treatment and had minimal training sessions. She did receive some training and thus is could not be used as an additional control classroom. However, she also has incomplete data that is impacting the treatment group. Further, two teachers were able to complete the CDI phase of treatment, but significant results are still variable. It is important to note that CDI is focused on reducing

attention seeking behaviors and the current study was unable to address aggressive and destructive behaviors in the second phase of the intervention. Further, generalization of CDI skills was limited by few classroom coaching sessions. Prior research indicates that classroom coaching sessions are necessary in order for skills to generalize to the classroom. However, a limited amount of classroom coaching session took place prior to school closures.

The current study did include a control classroom but the researcher was unable to control for years of teaching experiencing and behavior management skills already being used in the classroom. Thus, techniques and behavior management strategies that were already in place were not evaluated in any of the classrooms. The control teacher was randomly selected along with which order teachers received the intervention.

Due to unknown circumstances during the pandemic, the researcher waited to administer the mid-point measures in hopes schools would re-open and the intervention would resume. However, this did not occur and schools remained closed. Thus, the mid-point evaluations were mailed out to teachers two months after teachers had any interactions with the students. Further, due to the current state of the country and the circumstances in education, teachers may have not given their full attention to completing the measures. In regard to the teacher self-report measures, it's likely that stress related to external factors impacted their ratings. These ratings, may not be related to the TCIT-T intervention.

Regardless of COVID-19, future research with more teachers will be necessary to expand an understanding of the relationship between TCIT-C skills and social and behavioral competence. Future research should include a complete evaluation of the TCIT-C intervention in Kindergarten classrooms. Additionally, future studies should include a multi-site study to further evaluate the feasibility and effectiveness of the TCIT-C intervention in Kindergarten classrooms.

## **Conclusions**

Despite the limitations, this study provides preliminary support for a short-term, empirically-based, early intervention program for Kindergarten children. The TCIT-C program provides teachers with individualized training in specialized skills that are easily acquired in the training room and may generalize to the classroom. The TCIT-C program is a classroom-wide intervention that demonstrated promising results for improvements in social and behavioral competence for all students. The program was delivered during regular classroom hours so that teacher-child relationships could be observed and teacher interactions could be coached. Moreover, the program was delivered to all three teachers at minimal cost.

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APPENDICES

Appendix A

Student Observations – Classroom

Figure A-1: Classroom 1 – Student Observations – High Group

Classroom #1 - Student Observations - High

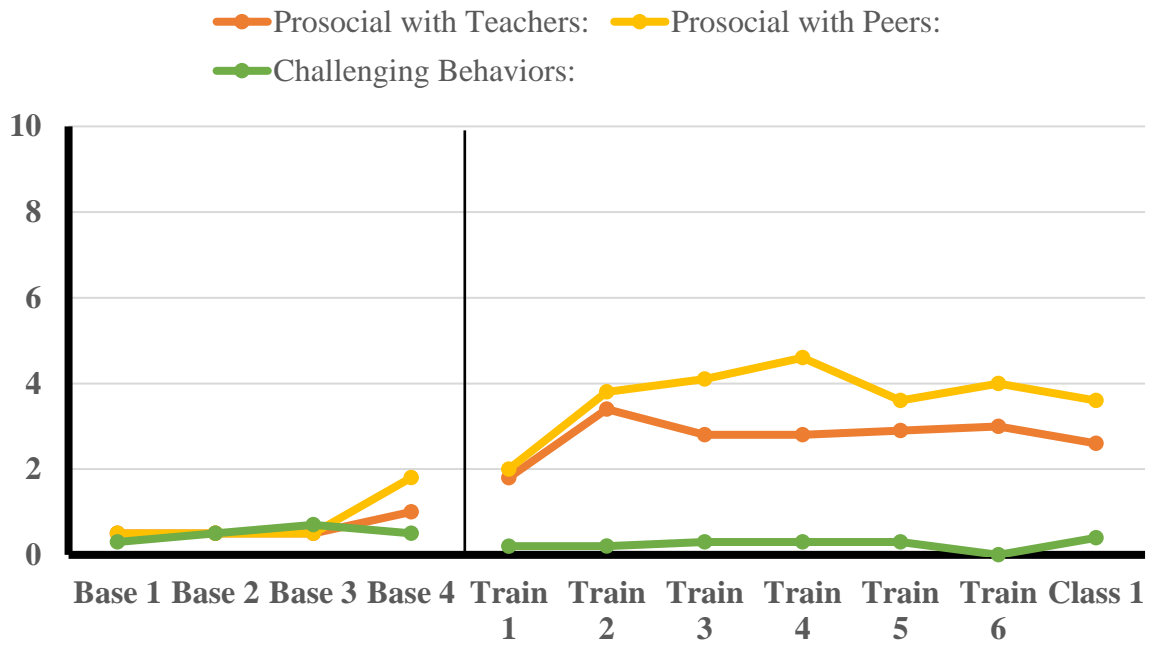


Figure A-2: Classroom 1 – Student Observations – Moderate Group

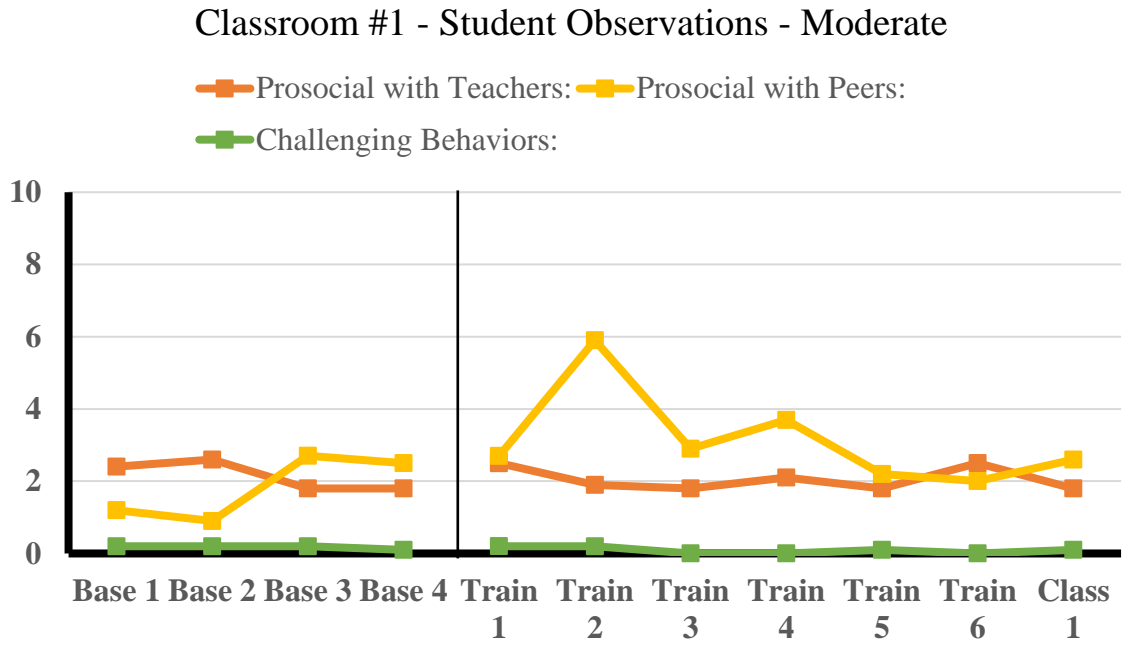


Figure A-3: Classroom 1 – Student Observations – Easy Group

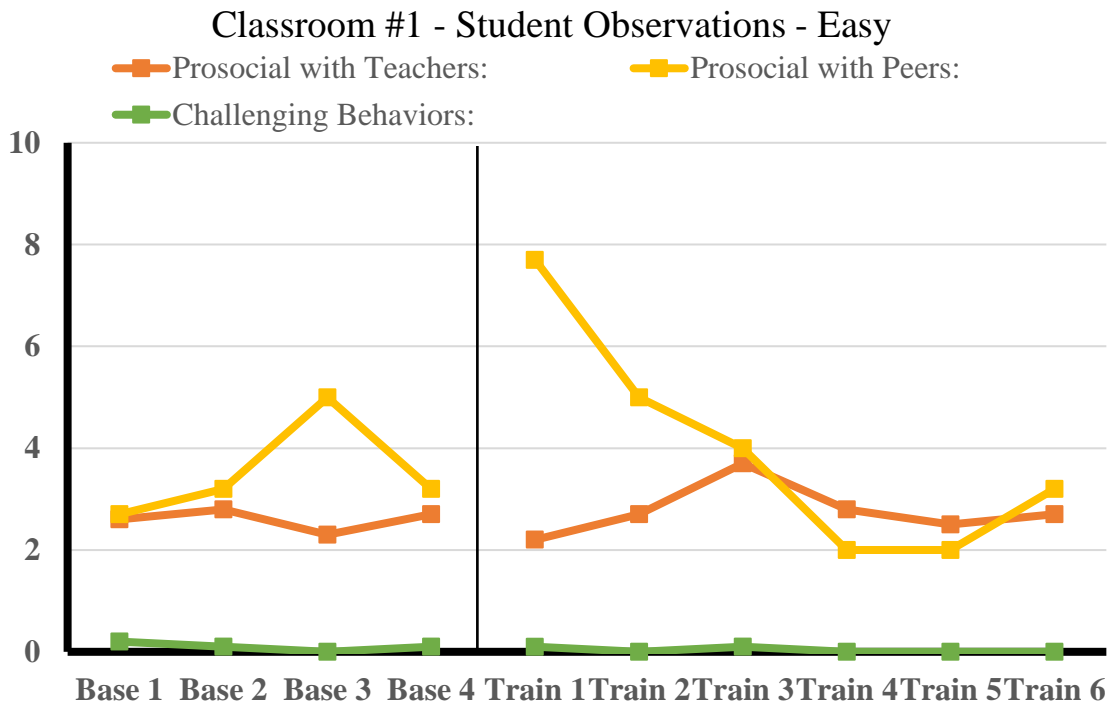


Figure A-4: Classroom 2 – Student Observations – High Group

Classroom #2 - Student Observations - High

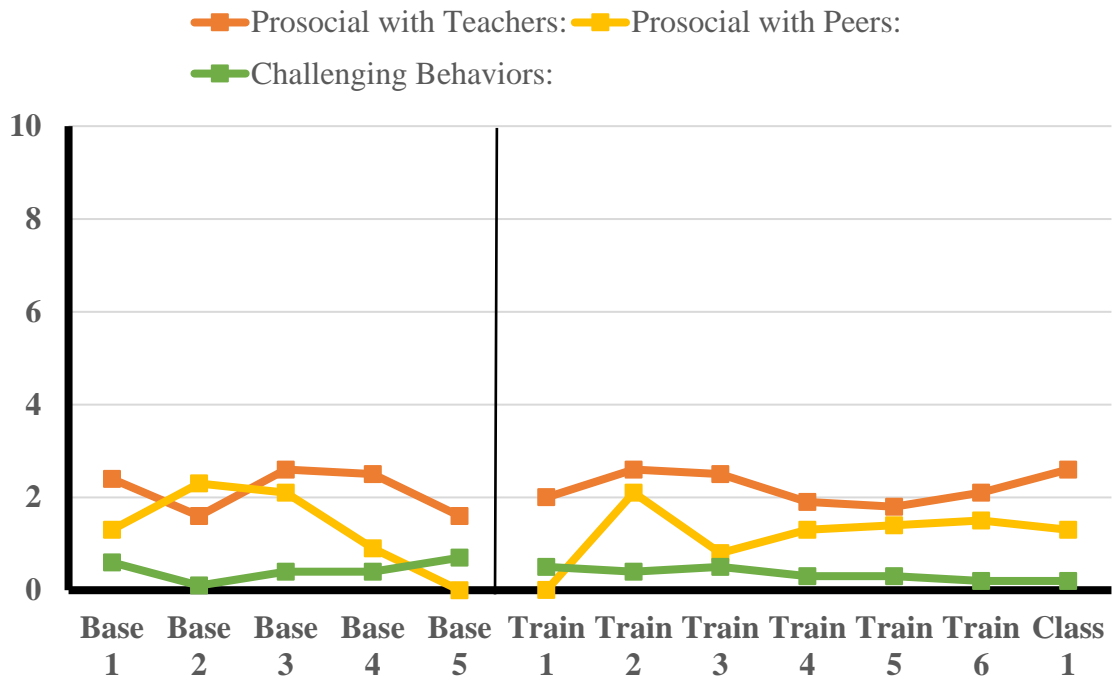


Figure A-5: Classroom 2 – Student Observations – Moderate Group

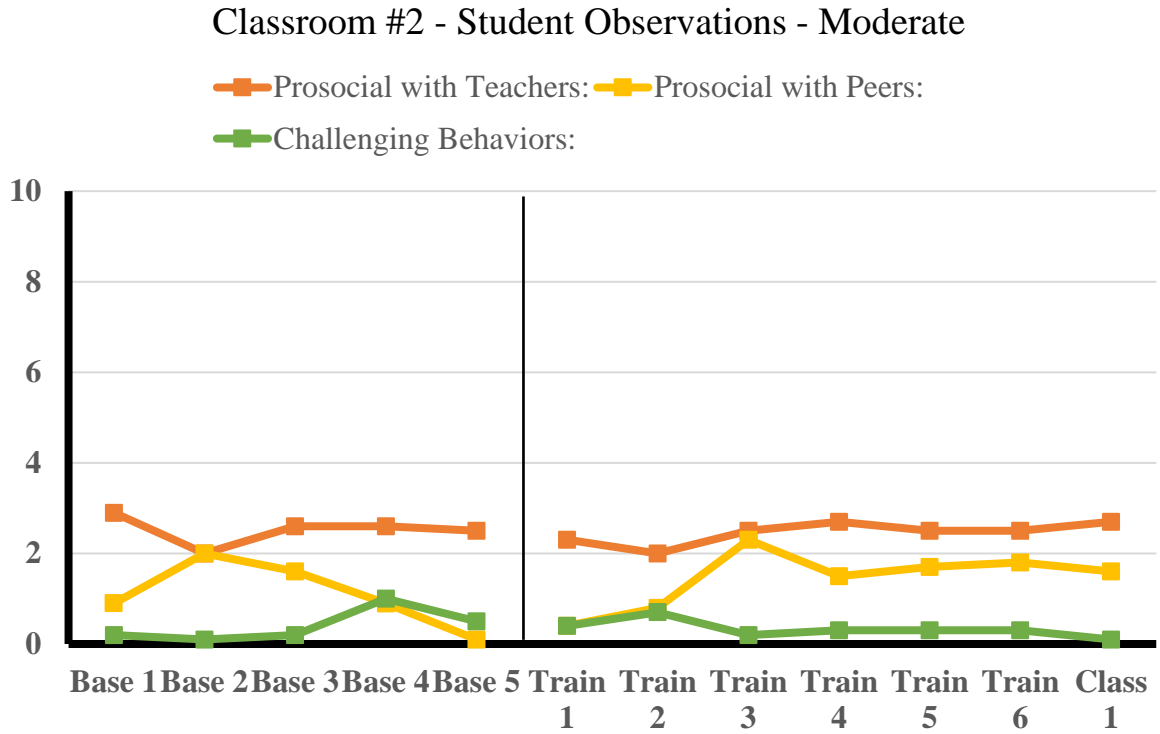


Figure A-6: Classroom 2 – Student Observations – Easy Group

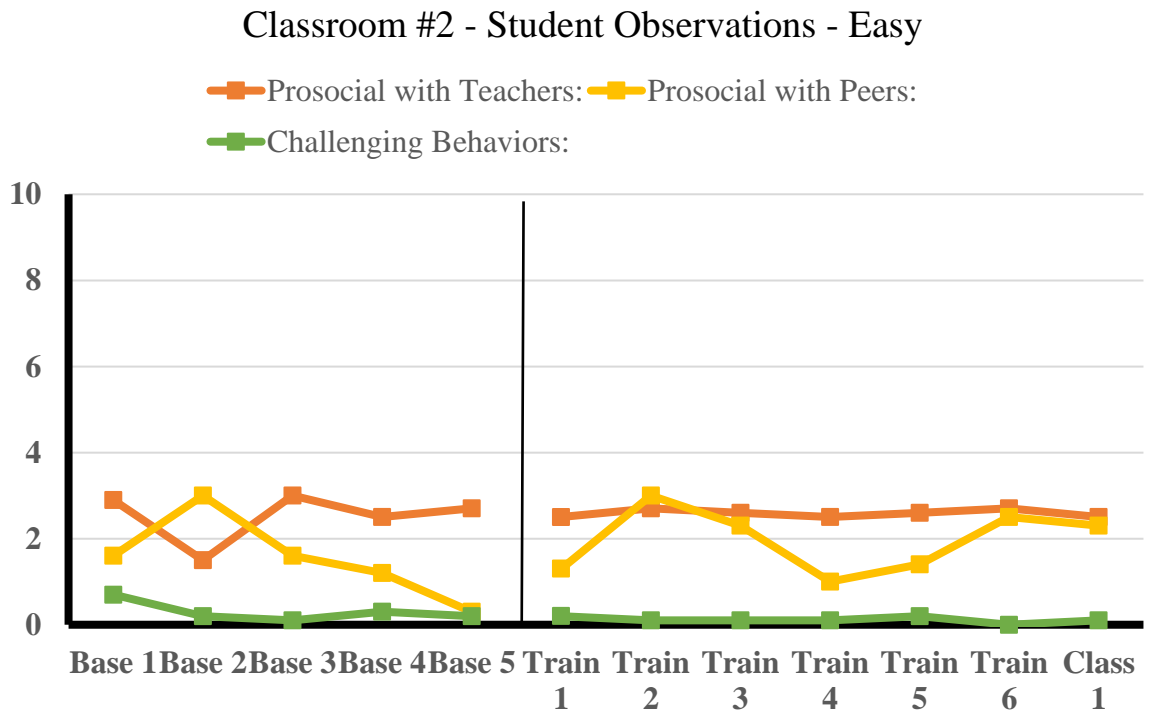


Figure A-7: Classroom 3 – Student Observations - High Group

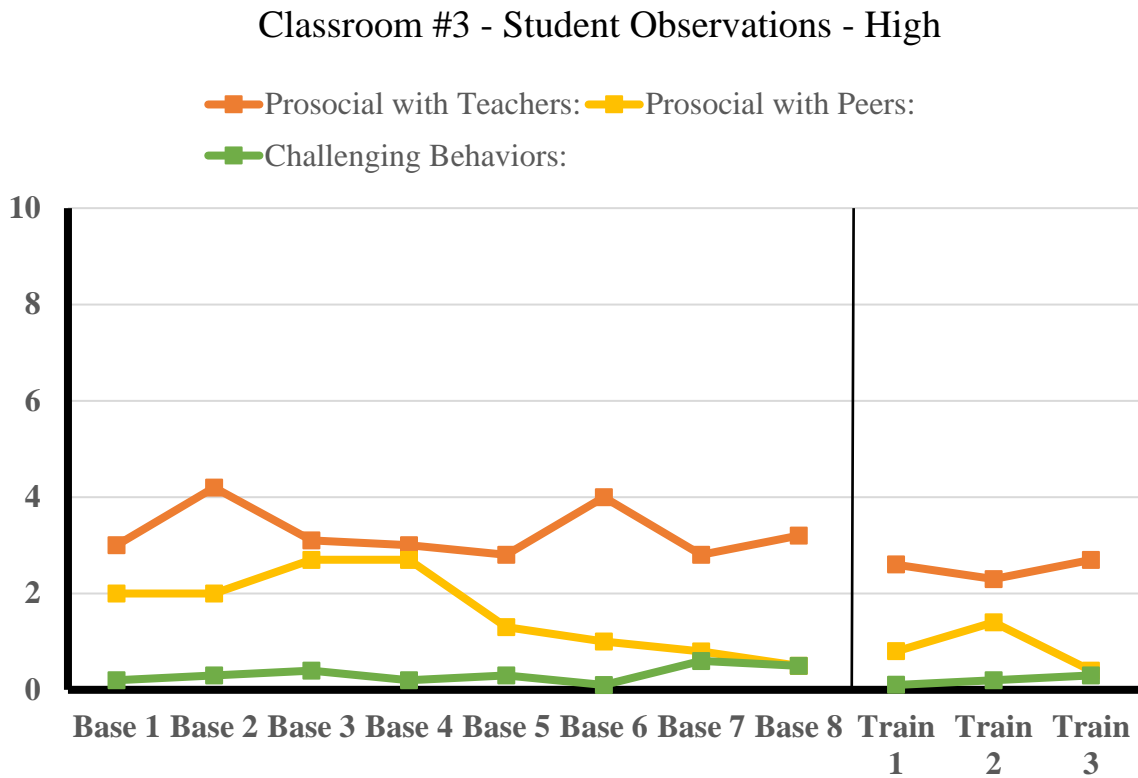


Figure A-8: Classroom 3 – Student Observations - Moderate Group

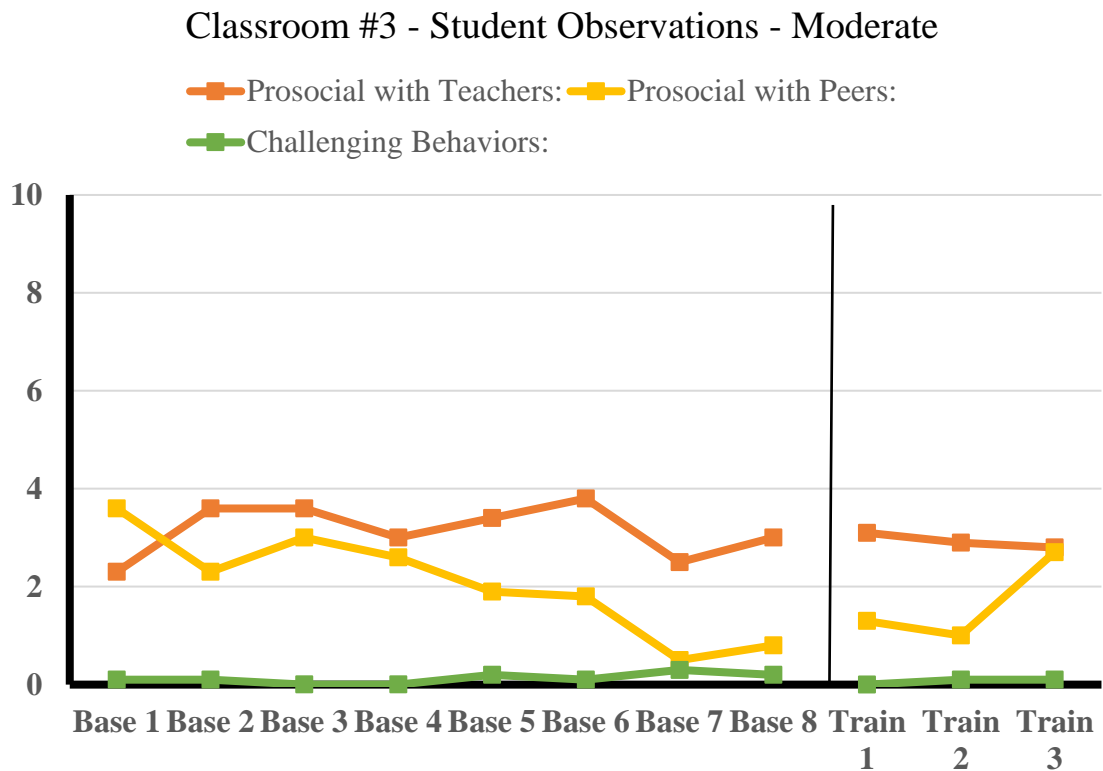


Figure A-9: Classroom 3 – Student Observations – Easy Group

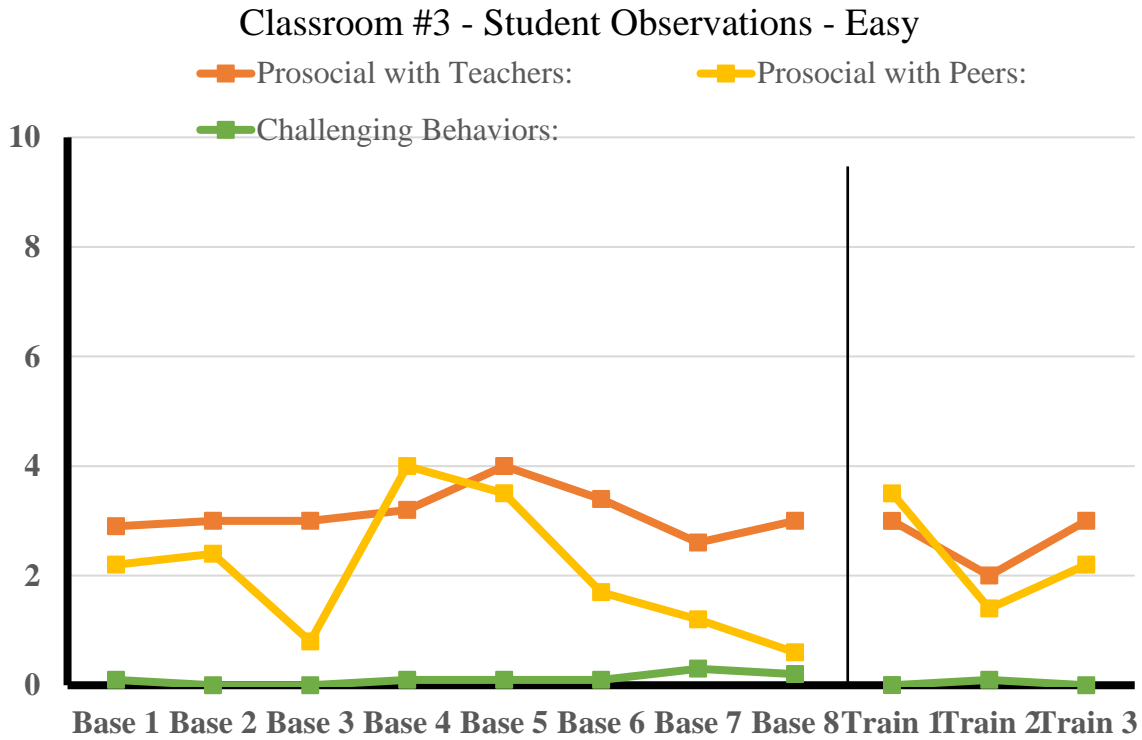


Figure A-10: Control Classroom – Student Observations – High Group

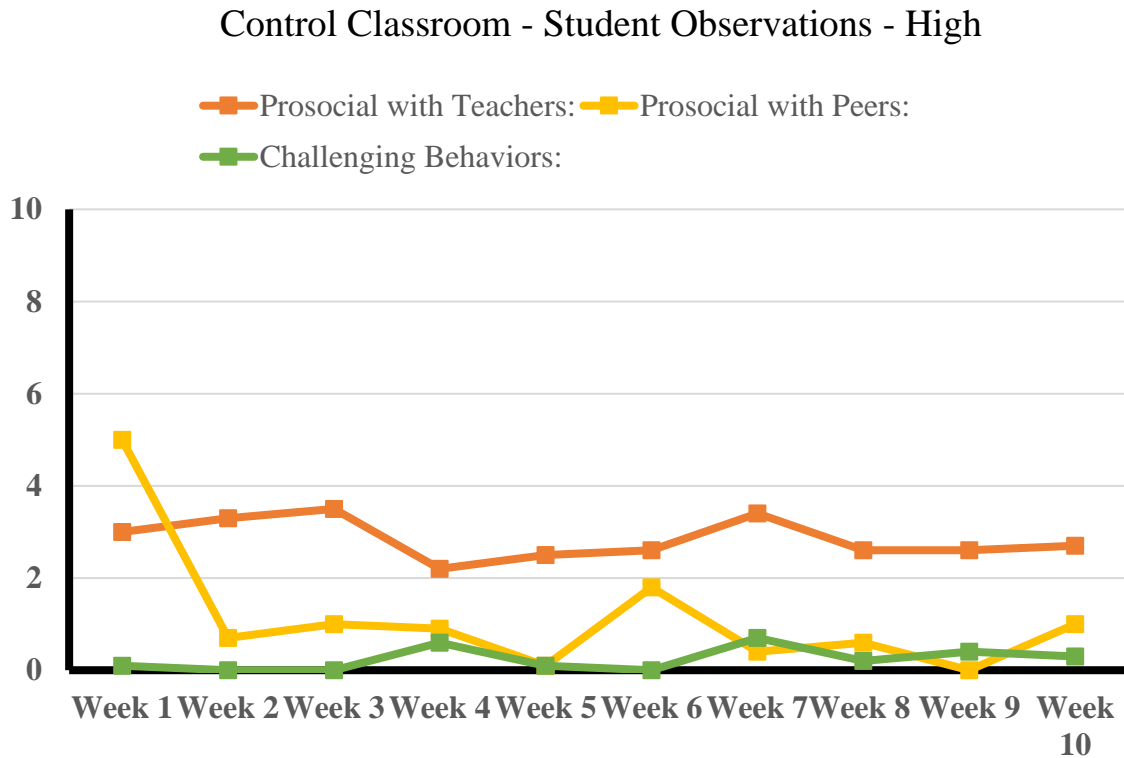


Figure A-11: Control Classroom – Student Observations – Moderate Group

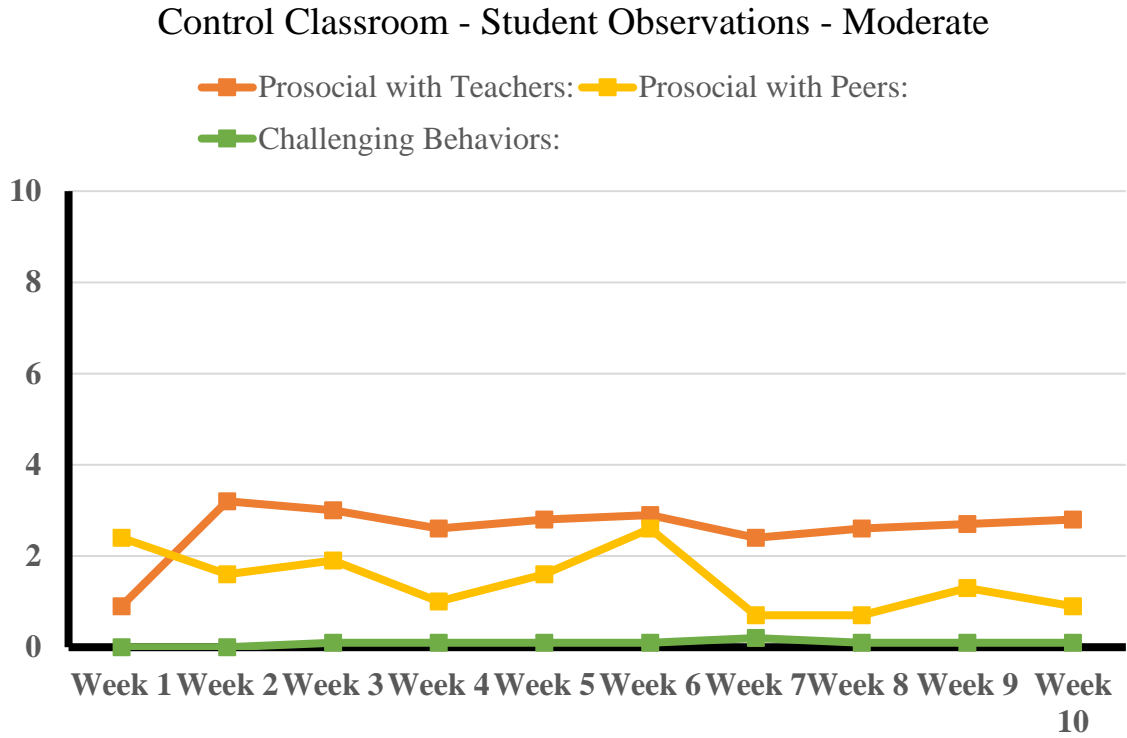
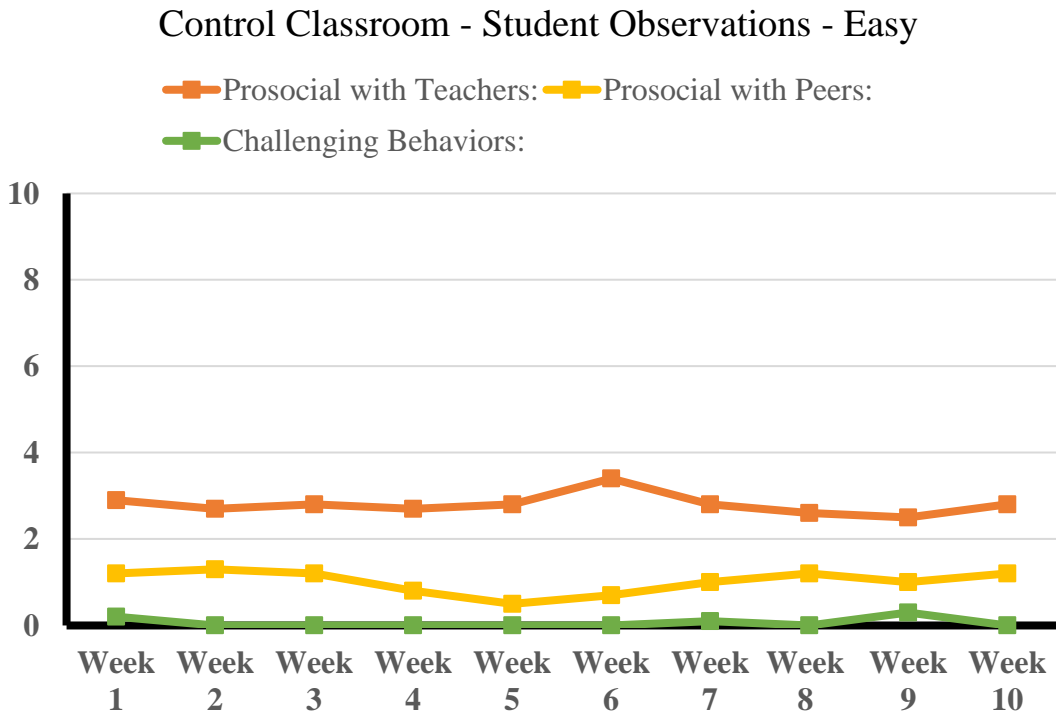


Figure A-12: Control Classroom – Student Observations – Easy Group





Appendix B  
Teacher-Report on Child Functioning

Table B-1  
*Pre- and Mid-Point Treatment Differences on the BASC-3 TRS for Classroom #1 (n = 12)*

Table B-2

BASC-3 Scales	Pre-Treatment Assessment		Mid-Point-Treatment Assessment		F
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<b>Internalizing</b>	59.08	7.17	52.25	5.36	10.56*
<b>Externalizing</b>	63.75	10.10	55.33	6.46	32.82***
<b>Behavioral Index</b>	63.58	10.42	54.92	5.87	22.60**
<b>Adaptive Skills</b>	43.08	8.50	49.75	7.33	40.55***

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

*Pre- and -Mid-Point Treatment Differences on the BASC-3 TRS for Classroom #2 (n=12)*

BASC-3 Scales	Pre-Treatment Assessment		Mid-Point-Treatment Assessment		F
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<b>Internalizing</b>	46.75	5.86	41.00	4.02	15.91*
<b>Externalizing</b>	52.50	12.91	47.00	7.34	6.49*
<b>Behavioral Index</b>	50.67	8.48	44.08	8.38	15.18**
<b>Adaptive Skills</b>	47.92	6.33	53.33	6.96	7.19*

<sup>+</sup>  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table B-3  
*Pre- and Mid-Point Treatment Differences on the BASC-3 TRS for Classroom #3 (n = 12)*

BASC-3 Scales	Pre-Treatment Assessment		Mid-Point-Treatment Assessment		F
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<b>Internalizing</b>	50.17	10.28	43.50	4.76	8.10*
<b>Externalizing</b>	57.17	14.58	53.75	12.08	4.13
<b>Behavioral Index</b>	54.25	10.63	48.67	7.91	13.77**
<b>Adaptive Skills</b>	51.58	7.53	55.67	8.37	5.90*

<sup>+</sup>  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table B-4  
*Pre- and Mid-Point Treatment Differences on the BASC-3 TRS for Control Classroom (n = 12)*

BASC-3 Scales	Pre-Treatment Assessment		Mid-Point-Treatment Assessment		F
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<b>Internalizing</b>	50.42	9.04	45.00	5.29	10.85**
<b>Externalizing</b>	54.33	12.90	48.08	9.89	13.28**
<b>Behavioral Index</b>	53.42	11.31	46.67	8.70	24.23***
<b>Adaptive Skills</b>	48.00	8.09	52.83	9.50	11.11**

+  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table B-5  
*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Externalizing Scale for the Highest Group in classroom #1 (n = 3)*

BASC Scales	Pre-Treatment Assessment		Mid-Point-Treatment Assessment		F
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<b>Externalizing</b>	71.00	6.93	54.33	0.58	18.79*

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table B-6  
*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Behavioral Index for the Highest Group in classroom #1 (n = 2)*

BASC Scales	Pre-Treatment Assessment		Mid-Point-Treatment Assessment		F
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<b>Behavioral Index</b>	62.50	2.12	51.50	7.78	7.56

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

*Note.* Groups were determined using pre-treatment *T*-Scores on the BASC-3 Scale. The highest Group of children had *T*-Scores of 60 or greater (i.e., At-Risk or Clinically Significant) at pre-treatment.

Table B-7

*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Adaptive Skills for the Highest Group in classroom #1 (n = 2)*

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Adaptive Skills</i>	37.00	2.83	52.00	2.83	

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

*Note.* Groups were determined using pre-treatment *T*-Scores on the BASC-3 Scale. The highest Group of children had *T*-Scores of 40 or less (i.e., At-Risk or Clinically Significant) at pre-treatment.

Table B-8

*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Externalizing Scale for the Lowest Group in Classroom #1 (n = 9)*

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Externalizing</i>	46.33	6.78	44.56	6.86	8.26*

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table B-9

*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Internalizing Scale for the Lowest Group Classroom #1 (n = 12)*

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Internalizing</i>	46.75	5.86	41.00	4.02	15.91**

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table B-10

*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Behavioral Index for the Lowest Group Classroom #1 (n = 10)*

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		F
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<b><i>Behavioral Index</i></b>	48.30	7.06	42.60	8.03	9.81*

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

*Note.* Groups were determined using pre-treatment *T*-Scores on the BASC-3 Scale. The highest Group of children had *T*-Scores of 60 or less (i.e., Average range) at pre-treatment.

Table B-11

*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Adaptive Skills for the Lowest Group Classroom #1 (n = 10)*

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		F
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<b><i>Adaptive Skills</i></b>	50.10	4.04	53.60	7.60	3.46

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

*Note.* Groups were determined using pre-treatment *T*-Scores on the BASC-3 Scale. The highest Group of children had *T*-Scores of 40 or greater (i.e., Average range) at pre-treatment.

Table B-12

*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Externalizing Scale for the Highest Group in classroom #2 (n = 7)*

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		F
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<b><i>Externalizing</i></b>	70.57	7.09	58.71	6.53	91.04***

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table B-13

*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Internalizing Scale for the Highest Group in classroom #2 (n = 5)*

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<b><i>Internalizing</i></b>	66.40	4.62	54.20	5.93	11.41*

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table B-14

*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Behavioral Index for the Highest Group in classroom #2 (n = 9)*

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<b><i>Behavioral Index</i></b>	67.78	8.36	57.44	4.00	23.44**

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

*Note.* Groups were determined using pre-treatment *T*-Scores on the BASC-3 Scale. The highest Group of children had *T*-Scores of 60 or greater (i.e., At-Risk or Clinically Significant) at pre-treatment.

Table B-15

*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Adaptive Skills for the Highest Group in classroom #2 (n = 9)*

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<b><i>Adaptive Skills</i></b>	35.83	3.66	43.83	4.12	35.56**

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

*Note.* Groups were determined using pre-treatment *T*-Scores on the BASC-3 Scale. The highest Group of children had *T*-Scores of 40 or less (i.e., At-Risk or Clinically Significant) at pre-treatment.

Table B-16

*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Externalizing Scale for the Lowest Group in Classroom #2 (n = 6)*

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Externalizing</i>	55.17	3.66	51.00	1.79	16.89**

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table B-17

*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Internalizing Scale for the Lowest Group Classroom #2 (n = 7)*

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Internalizing</i>	53.86	1.86	50.86	4.88	4.97

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table B-18

*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Behavioral Index for the Lowest Group Classroom #2 (n = 4)*

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Behavioral Index</i>	53.25	4.57	49.75	5.50	13.36*

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

*Note.* Groups were determined using pre-treatment *T*-Scores on the BASC-3 Scale. The highest Group of children had *T*-Scores of 60 or less (i.e., Average range) at pre-treatment.

Table B-19

*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Adaptive Skills for the Lowest Group Classroom #2 (n = 8)*

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Adaptive Skills</i>	47.75	6.07	53.75	5.09	22.91**

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

*Note.* Groups were determined using pre-treatment *T*-Scores on the BASC-3 Scale. The highest Group of children had *T*-Scores of 40 or greater (i.e., Average range) at pre-treatment.

Table B-20

*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Externalizing Scale for the Highest Group in classroom #3 (n = 5)*

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Externalizing</i>	72.00	9.69	64.40	9.63	10.09*

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table B-21

*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Internalizing Scale for the Highest Group in classroom #3 (n = 2)*

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Internalizing</i>	68.00	9.91	48.00	1.41	11.11

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table B-22

*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Behavioral Index for the Highest Group in classroom #3 (n = 3)*

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		F
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<b><i>Behavioral Index</i></b>	68.67	5.86	57.00	5.57	306.25**

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

*Note.* Groups were determined using pre-treatment *T*-Scores on the BASC-3 Scale. The highest Group of children had *T*-Scores of 60 or greater (i.e., At-Risk or Clinically Significant) at pre-treatment.

Table B-23

*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Adaptive Skills for the Highest Group in classroom #3 (n = 1)*

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		F
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<b><i>Adaptive Skills</i></b>	39.00		39.00		

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

*Note.* Groups were determined using pre-treatment *T*-Scores on the BASC-3 Scale. The highest Group of children had *T*-Scores of 40 or less (i.e., At-Risk or Clinically Significant) at pre-treatment.

Table B-24

*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Externalizing Scale for the Lowest Group in Classroom #3 (n = 7)*

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		F
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<b><i>Externalizing</i></b>	46.57	3.55	46.14	6.62	0.07

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .



Table B-25

*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Internalizing Scale for the Lowest Group Classroom #3 (n = 10)*

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<b><i>Internalizing</i></b>	46.60	5.78	42.60	4.70	6.37*

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table B-26

*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Behavioral Index for the Lowest Group Classroom #3 (n = 9)*

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<b><i>Behavioral Index</i></b>	49.44	6.54	45.89	6.60	6.14*

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

*Note.* Groups were determined using pre-treatment *T*-Scores on the BASC-3 Scale. The highest Group of children had *T*-Scores of 60 or less (i.e., Average range) at pre-treatment.

Table B-27

*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Adaptive Skills for the Lowest Group Classroom #3 (n = 11)*

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<b><i>Adaptive Skills</i></b>	52.73	6.71	57.18	6.84	6.15*

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

*Note.* Groups were determined using pre-treatment *T*-Scores on the BASC-3 Scale. The highest Group of children had *T*-Scores of 40 or greater (i.e., Average range) at pre-treatment.

Table B-28

Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Externalizing Scale for the Highest Group in Control Classroom ( $n = 4$ )

BASC Scales	Pre-Treatment Assessment		Mid-Point-Treatment Assessment		F
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Externalizing</i>	68.75	9.46	60.00	6.38	8.94

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table B-29

Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Internalizing Scale for the Highest Group in Control Classroom ( $n = 2$ )

BASC Scales	Pre-Treatment Assessment		Mid-Point-Treatment Assessment		F
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Internalizing</i>	66.00	1.41	51.50	4.95	33.64

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table B-30

Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Behavioral Index for the Highest Group in Control Classroom ( $n = 3$ )

BASC Scales	Pre-Treatment Assessment		Mid-Point-Treatment Assessment		F
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Behavioral Index</i>	70.33	5.86	60.33	2.08	15.78

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

*Note.* Groups were determined using pre-treatment *T*-Scores on the BASC-3 Scale. The highest Group of children had *T*-Scores of 60 or greater (i.e., At-Risk or Clinically Significant) at pre-treatment.

Table B-31

*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Adaptive Skills for the Highest Group in the Control Classroom (n = 3)*

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Adaptive Skills</i>	35.67	0.58	40.67	3.51	8.33

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

*Note.* Groups were determined using pre-treatment *T*-Scores on the BASC-3 Scale. The highest Group of children had *T*-Scores of 40 or less (i.e., At-Risk or Clinically Significant) at pre-treatment.

Table B-32

*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Externalizing Scale for the Lowest Group in Control Classroom (n = 8)*

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Externalizing</i>	47.13	6.71	42.13	3.79	5.65

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table B-33

*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Internalizing Scale for the Lowest Group in Control Classroom (n = 10)*

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Internalizing</i>	47.30	5.91	43.70	4.50	7.97*

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table B-34

*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Behavioral Index for the Lowest Group Classroom #4 (n = 9)*

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		F
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<b><i>Behavioral Index</i></b>	47.78	4.92	42.11	3.10	13.76**

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

*Note.* Groups were determined using pre-treatment *T*-Scores on the BASC-3 Scale. The highest Group of children had *T*-Scores of 60 or less (i.e., Average range) at pre-treatment.

Table B-35

*Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS Adaptive Skills for the Lowest Group in Control Classroom (n = 10)*

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		F
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<b><i>Adaptive Skills</i></b>	52.11	3.72	56.89	6.86	6.33*

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

*Note.* Groups were determined using pre-treatment *T*-Scores on the BASC-3 Scale. The highest Group of children had *T*-Scores of 40 or greater (i.e., Average range) at pre-treatment.

Table B-36

Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS for the Treatment vs control ( $n = 48$ )

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Externalizing – Treatment Group</i>	57.81	13.16	52.03	9.45	.63
<i>Externalizing – Control Group</i>	54.33	12.90	48.08	9.89	1.53

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Internalizing - Treatment</i>	52.00	9.38	45.58	6.72	.26
<i>Internalizing – Control</i>	50.42	9.04	45.00	5.29	.08

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Behavioral Index - Treatment</i>	56.17	11.08	49.22	8.54	.55
<i>Behavioral Index – Control</i>	53.42	11.31	46.67	8.70	.80

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Adaptive Skills - Treatment</i>	47.53	8.10	52.92	7.76	.03
<i>Adaptive Skills – Control</i>	48.00	8.09	52.83	9.50	.00

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table B-37

Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS for the Classroom #1 vs control (n = 12)

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Externalizing – class #1</i>	52.50	12.91	47.00	7.34	.12
<i>Externalizing – Control Group</i>	54.33	12.90	48.08	9.89	.09

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Internalizing – class #1</i>	46.75	5.86	41.00	4.02	1.39
<i>Internalizing – Control</i>	50.42	9.04	45.00	5.29	4.35*

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Behavioral Index – class #1</i>	50.67	8.47	44.08	8.38	.46
<i>Behavioral Index – Control</i>	53.42	11.31	46.67	8.70	.55

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Adaptive Skills – class #1</i>	47.92	6.33	53.33	6.96	.00
<i>Adaptive Skills – Control</i>	48.00	8.09	52.83	9.50	.02

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table B-38

Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS for the Classroom #2 vs control (n = 12)

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Externalizing – class #2</i>	63.75	10.10	55.33	6.46	3.96*
<i>Externalizing – Control Group</i>	54.33	12.90	48.08	9.89	4.52*

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Internalizing – class #2</i>	59.08	7.17	52.25	5.36	6.77**
<i>Internalizing – Control</i>	50.42	9.04	45.00	5.29	11.12***

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Behavioral Index – class #2</i>	63.58	10.42	54.92	5.87	5.24*
<i>Behavioral Index – Control</i>	53.42	11.31	46.67	8.70	7.42**

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Adaptive Skills – class #2</i>	43.08	8.50	49.75	7.33	2.11
<i>Adaptive Skills – Control</i>	48.00	8.09	52.83	9.50	.79

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table B-39

Overall Pre- and Mid-Point-Treatment Differences on the BASC-TRS for the Classroom #3 vs control (n = 12)

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Externalizing – class #3</i>	57.17	14.58	53.75	12.08	.25
<i>Externalizing – Control Group</i>	54.33	12.90	48.08	9.89	1.58

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Internalizing – class #3</i>	50.17	10.28	43.50	4.76	.00
<i>Internalizing – Control</i>	50.42	9.04	45.00	5.29	.53

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Behavioral Index – class #3</i>	54.25	10.63	48.67	7.91	.04
<i>Behavioral Index – Control</i>	53.42	11.31	46.67	8.70	.35

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

<i>BASC Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Adaptive Skills – class #3</i>	51.58	7.53	55.67	8.37	1.26
<i>Adaptive Skills – Control</i>	48.00	8.09	52.83	9.50	.60

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .



Table B-40  
*Overall Pre- and Mid-Point-Treatment Differences on the SESBI-R for Classroom #1 (n = 12)*

SESBI-R Scales	Pre-Treatment Assessment		Mid-Point-Treatment Assessment		F
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Intensity Raw Score	105.50	64.47	92.25	50.67	5.54*
Intensity T-Score	51.50	11.64	49.00	9.18	6.10
Problem Raw Score	5.33	7.25	3.83	9.64	0.64
Problem T-Score	47.75	6.51	46.42	8.79	0.59

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table B-41  
*Overall Pre- and Mid-Point-Treatment Differences on the SESBI-R for Classroom #2 (n = 12)*

SESBI-R Scales	Pre-Treatment Assessment		Mid-Point-Treatment Assessment		F
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Intensity Raw Score	142.83	35.89	133.25	26.24	2.72
Intensity T-Score	58.00	6.51	56.42	4.85	2.16
Problem Raw Score	8.42	6.83	2.92	2.64	13.18**
Problem T-Score	50.33	6.08	45.50	2.28	12.76**

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table B-42  
*Overall Pre- and Mid-Point-Treatment Differences on the SESBI-R for Classroom #3 (n = 12)*

SESBI-R Scales	Pre-Treatment Assessment		Mid-Point-Treatment Assessment		F
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Intensity Raw Score	106.00	53.35	103.42	49.54	0.12
Intensity T-Score	51.33	9.87	51.17	8.99	0.01
Problem Raw Score	5.08	7.18	.75	1.42	4.36
Problem T-Score	47.58	6.56	43.58	1.08	4.49

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table B-43  
Overall Pre- and Mid-Point-Treatment Differences on the SESBI-R for Control Classroom (n = 12)

SESBI-R Scales	Pre-Treatment Assessment		Mid-Point-Treatment Assessment		F
	M	SD	M	SD	
Intensity Raw Score	101.42	47.44	85.58	35.36	10.53**
Intensity T-Score	50.58	8.67	47.75	6.50	9.66*
Problem Raw Score	2.92	3.48	1.50	1.68	4.47
Problem T-Score	45.42	3.06	44.25	1.29	3.48

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table B-44  
Pre- and Mid-Point-Treatment Differences on the SESBI-R for the Highest Group in Classroom #1 (n = 7)

SESBI-R Scales	Pre-Treatment Assessment		Mid-Point-Treatment Assessment		F
	M	SD	M	SD	
Intensity Raw Score	169.71	14.74	149.71	17.59	10.66*
Intensity T-Score	62.86	2.73	59.43	3.36	8.00*
Problem Raw Score	12.57	5.41	4.29	2.75	22.98**
Problem T-Score	54.00	4.93	46.57	2.51	24.73**

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .  
Note. Groups were determined using pre-treatment scores on the SESBI Intensity Scale. The highest Group of children had raw scores of 151 and above at pre-treatment.

Table B-45  
Pre- and Mid-Point-Treatment Differences on the SESBI-R for the Highest Group in Classroom #2 (n = 4)

SESBI-R Scales	Pre-Treatment Assessment		Mid-Point-Treatment Assessment		F
	M	SD	M	SD	
Intensity Raw Score	186.00	19.20	156.00	12.19	22.22*
Intensity T-Score	66.00	3.74	60.50	2.52	21.35*
Problem Raw Score	14.50	4.66	11.00	15.38	0.34
Problem T-Score	56.00	4.16	52.75	14.19	0.34

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .  
Note. Groups were determined using pre-treatment scores on the SESBI Intensity Scale. The highest Group of children had raw scores of 151 and above at pre-treatment.

Table B-46

*Pre- and Mid-Point-Treatment Differences on the SESBI-R for the Highest Group in Classroom #3 (n = 4)*

<i>SESBI-R Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Intensity Raw Score</i>	171.25	21.17	152.75	48.42	1.32
<i>Intensity T-Score</i>	63.50	3.69	60.25	8.66	1.19
<i>Problem Raw Score</i>	13.50	6.69	1.00	2.00	12.58*
<i>Problem T-Score</i>	55.25	6.19	43.75	1.50	12.90*

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

*Note.* Groups were determined using pre-treatment scores on the SESBI Intensity Scale. The highest Group of children had raw scores of 151 and above at pre-treatment.

Table B-47

*Pre- and Mid-Point-Treatment Differences on the SESBI-R for the Highest Group in Control Classroom (n = 3)*

<i>SESBI-R Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Intensity Raw Score</i>	171.00	21.07	139.33	13.58	8.49
<i>Intensity T-Score</i>	63.33	3.51	57.67	2.52	9.32
<i>Problem Raw Score</i>	7.67	2.89	3.33	1.16	8.89
<i>Problem T-Score</i>	49.67	2.89	45.67	0.58	6.86

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

*Note.* Groups were determined using pre-treatment scores on the SESBI Intensity Scale. The highest Group of children had raw scores of 151 and above at pre-treatment.

Table B-48

*Overall Pre- and Mid-Point-Treatment Differences on the SESBI-R for the Lowest Group in classroom #1 (n = 5)*

<i>SESBI-R Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Intensity Raw Score</i>	65.25	28.61	60.38	22.09	0.66
<i>Intensity T-Score</i>	44.25	5.19	43.25	4.03	1.00
<i>Problem Raw Score</i>	0.75	1.17	0.25	0.71	1.75
<i>Problem T-Score</i>	43.63	0.92	43.25	0.71	2.03

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

*Note.* Groups were determined using pre-treatment scores on the SESBI Intensity Scale. The lowest Group of children had raw score of 151 or less at pre-treatment.

Table B-49

*Overall Pre- and Mid-Point-Treatment Differences on the SESBI-R for the Lowest Group in classroom #2 (n = 8)*

<i>SESBI-R Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Intensity Raw Score</i>	105.20	13.46	110.20	17.05	0.47
<i>Intensity T-Score</i>	51.20	2.49	52.20	3.15	0.59
<i>Problem Raw Score</i>	2.60	3.46	1.00	0.00	1.09
<i>Problem T-Score</i>	45.20	2.95	44.00	0.00	0.83

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

*Note.* Groups were determined using pre-treatment scores on the SESBI Intensity Scale. The lowest Group of children had raw score of 151 or less at pre-treatment.

Table B-50

*Overall Pre- and Mid-Point-Treatment Differences on the SESBI-R for the Lowest Group in classroom #3 (n = 9)*

<i>SESBI-R Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Intensity Raw Score</i>	82.00	34.96	85.56	32.97	0.31
<i>Intensity T-Score</i>	46.89	6.47	47.89	5.97	0.72
<i>Problem Raw Score</i>	1.89	3.22	0.56	1.14	1.23
<i>Problem T-Score</i>	44.67	2.87	43.44	0.88	1.39

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

*Note.* Groups were determined using pre-treatment scores on the SESBI Intensity Scale. The lowest Group of children had raw score of 151 or less at pre-treatment.

Table B-51

*Overall Pre- and Mid-Point-Treatment Differences on the SESBI-R for the Lowest Group in the Control Classroom (n = 10)*

<i>SESBI-R Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Intensity Raw Score</i>	85.50	32.08	75.00	27.22	6.94*
<i>Intensity T-Score</i>	47.70	5.96	45.80	4.98	5.71*
<i>Problem Raw Score</i>	1.80	2.25	1.00	1.33	2.44
<i>Problem T-Score</i>	44.40	1.78	43.90	1.10	1.80

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

*Note.* Groups were determined using pre-treatment scores on the SESBI Intensity Scale. The lowest Group of children had raw score of 151 or less at pre-treatment.

Table B-52

*Pre- and Mid-Point-Treatment Differences on the SESBI-R for treatment vs control (n =48)*

<i>SESBI-R Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Intensity Raw Score - treatment</i>	118.11	54.04	109.64	45.86	.91
<i>Intensity Raw Score - control</i>	101.42	47.44	85.58	35.36	2.74
<i>Intensity T-Score - treatment</i>	53.61	9.82	52.19	8.32	.90
<i>Intensity T-Score - control</i>	50.85	8.67	47.45	6.50	2.83
<i>Problem Raw Score - treatment</i>	6.28	7.05	2.50	5.81	2.50
<i>Problem Raw Score - control</i>	2.92	3.48	1.50	1.68	.34
<i>Problem T-Score - treatment</i>	48.56	6.33	45.17	5.26	2.71
<i>Problem T-Score - control</i>	45.42	3.06	44.25	1.29	.35

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table B-53

*Pre- and Mid-Point-Treatment Differences on the SESBI-R for class #1 vs control (n =12)*

<i>SESBI-R Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Intensity Raw Score - class #1</i>	105.50	64.47	92.25	50.67	.03
<i>Intensity Raw Score - control</i>	101.42	47.44	85.58	35.36	.14
<i>Intensity T-Score - class #1</i>	51.50	11.64	49.00	9.18	.05
<i>Intensity T-Score - control</i>	50.85	8.67	47.45	6.50	.15
<i>Problem Raw Score - Class #1</i>	5.33	7.25	3.83	9.64	1.08
<i>Problem Raw Score - control</i>	2.92	3.48	1.50	1.68	.68
<i>Problem T-Score - class #1</i>	47.75	6.51	46.42	8.79	1.26
<i>Problem T-Score - control</i>	45.42	3.06	44.25	1.29	.72

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table B-54

*Pre- and Mid-Point-Treatment Differences on the SESBI-R for classroom #2 vs control (n =12)*

<i>SESBI-R Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Intensity Raw Score – class #2</i>	142.83	35.89	133.25	26.24	5.82*
<i>Intensity Raw Score - control</i>	101.42	47.44	85.58	35.36	14.06***
<i>Intensity T-Score – class #2</i>	58.00	6.51	56.42	4.85	5.62*
<i>Intensity T-Score – control</i>	50.85	8.67	47.45	6.50	13.71***
<i>Problem Raw Score – Class #2</i>	8.42	6.83	2.92	2.64	6.18**
<i>Problem Raw Score – control</i>	2.92	3.48	1.50	1.68	2.45
<i>Problem T-Score – class #2</i>	50.33	6.08	45.50	2.28	6.26*
<i>Problem T-Score - control</i>	45.42	3.06	44.25	1.29	2.74

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

Table B-55

*Pre- and Mid-Point-Treatment Differences on the SESBI-R for classroom #3 vs control (n =12)*

<i>SESBI-R Scales</i>	<b>Pre-Treatment Assessment</b>		<b>Mid-Point-Treatment Assessment</b>		<b>F</b>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<i>Intensity Raw Score – class #3</i>	106.00	53.35	103.42	49.54	.05
<i>Intensity Raw Score - control</i>	101.42	47.44	85.58	35.36	1.03
<i>Intensity T-Score – class #3</i>	51.33	9.87	51.17	8.99	.04
<i>Intensity T-Score – control</i>	50.85	8.67	47.45	6.50	1.14
<i>Problem Raw Score – Class #3</i>	5.08	7.18	.75	1.42	.89
<i>Problem Raw Score – control</i>	2.92	3.48	1.50	1.68	1.39
<i>Problem T-Score – class #3</i>	47.58	6.56	43.58	1.08	1.08
<i>Problem T-Score - control</i>	45.42	3.06	44.25	1.29	1.88

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ .

## Appendix C

### Teacher Self-Reports

Table C-1

Teacher Efficacy Scale

<b>Teacher Efficacy</b>	<b>Pre</b>	<b>Mid-Point</b>
Classroom #1	180	190
Classroom #2	167	183
Classroom #3	266	232
Classroom #4 (Control)	255	185

Table C-2

Teacher Satisfaction Scale

<b>Teacher Satisfaction</b>	<b>Pre</b>	<b>Mid-Point</b>
Classroom #1	103	111
Classroom #2	96	106
Classroom #3	100	93
Control Classroom	90	102

Table C-3

Teacher Stress Scale

<b>Teacher Stress</b>	<b>Pre</b>	<b>Mid-Point</b>
Classroom #1	184	203
Classroom #2	210	165
Classroom #3	175	194
Classroom #4 (Control)	204	198

Appendix D

Institutional Review Board Approval



**Oklahoma State University Institutional Review Board**

Date: 09/30/2019

Application Number: ED-19-124

Proposal Title: EVALUATING THE EFFECTIVENESS OF A TIER 1 TEACHER TRAINING PROGRAM DESIGNED TO ADDRESS TIER 3 BEHAVIORAL CHALLENGES IN KINDERGARTEN CLASSROOMS: THE TEACHER-CHILD INTERACTION TRAINING – COMPREHENSIVE PROGRAM

Principal Investigator: Danielle Campbell Co-Investigator(s):  
Faculty Adviser: Gary Duhon Project Coordinator:  
Research Assistant(s):

Processed as: Exempt  
Exempt Category:

**Status Recommended by Reviewer(s): Approved**

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The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in 45CFR46.

**This study meets criteria in the Revised Common Rule, as well as, one or more of the circumstances for which continuing review is not required. As Principal Investigator of this research, you will be required to submit a status report to the IRB triennially.**

The final versions of any recruitment, consent and assent documents bearing the IRB approval stamp are available for download from IRBManager. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be approved by the IRB. Protocol modifications requiring approval may include changes to the title, PI, adviser, other research personnel, funding status or



- sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms.
2. Submit a request for continuation if the study extends beyond the approval period. This continuation must receive IRB review and approval before the research can continue.
  3. Report any unanticipated and/or adverse events to the IRB Office promptly.
  4. Notify the IRB office when your research project is complete or when you are no longer affiliated with Oklahoma State University.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact the IRB Office at 405-744- 3377 or [irb@okstate.edu](mailto:irb@okstate.edu).

Sincerely,

Oklahoma State University IRB

## VITA

Danielle Campbell

Candidate for the Degree of

Doctor of Philosophy

Dissertation: EVALUATING THE EFFECTIVENESS OF A TIER 1 TEACHER TRAINING PROGRAM DESIGNED TO ADDRESS TIER 3 BEHAVIORAL CHALLENGES IN KINDERGARTEN CLASSROOMS: THE TEACHER-CHILD INTERACTION TRAINING – COMPREHENSIVE PROGRAM

Major Field: School Psychology

Biographical:

Education:

Completed the requirements for the Doctor of Philosophy in School Psychology at Oklahoma State University, Stillwater, Oklahoma in July, 2021.

Completed the requirements for the Master of Science in Educational Psychology at Oklahoma State University, Stillwater, Oklahoma in December 2017.

Completed the requirements for the Bachelor of Arts in Psychology at University of Oklahoma, Norman, Oklahoma in May 2009.

Experience:

Funding Source: **National Association of School Psychologists (NASP)**

Title of Research: **Evaluating the Effectiveness of a Tier 1 Teacher Training Program Designed to Address Tier 3 Behavioral Challenges in Kindergarten Classrooms: The Teacher-Child Interaction Training – Comprehensive Program**

Description: The purpose of the study is to evaluate the effectiveness of a short-term, manualized teacher training intervention designed to improve social, emotional, and behavioral competence of children ages 3-6, and increase teacher-efficacy, job satisfaction, and reduce teacher stress.

Total Award: \$1,000