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Teacher Child Interaction Therapy: An Ecological Approach to Intervening with Young Children who Display Disruptive Behaviors

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Teacher Child Interaction Therapy: An Ecological Approach to Intervening with Young Children
Who Display Disruptive Behaviors

by

Sara M. Hinojosa

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
in School Psychology
Department of Psychological and Social Foundations
College of Education
University of South Florida

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Abstract

A model of Teacher Child Interaction Therapy (TCIT) was implemented in two kindergarten classrooms of students (n = 2) who successfully completed Parent Child Interaction Therapy, but continued to demonstrate disruptive behaviors in the classroom. The current study first indicated that TCIT was implemented with integrity by both the therapists and teacher participants. Next, the effects of this intervention on the teacher's skills, students' disruptive behaviors, teacher's stress, and teacher-child relationships were investigated. The treatment acceptability was also examined. Both visual and statistical analyses found a treatment effect in both cases was seen for both teachers' increased use of positive interaction skills and decrease of negative interaction skills during the intervention session. However, these skills generalized to the interactions between the teacher and student during classroom instruction. Mixed results were found related to teachers' use of effective commands. Results from visual analysis indicated that one child participant demonstrated a decrease in disruptive behaviors according to both teacher rating scales and classroom behavior observations. Neither teacher indicated significantly reduced stress over the course of TCIT. Teacher-child relationships improved for both students; however, one teacher also reported increased conflict in the relationship. Both teachers expressed high levels of treatment acceptability for the intervention. Further research should investigate the underlying causes for the nuances in the findings of this study. Additional research is also warranted to determine whether these results can be generalized to other students as well as best practices for implementing this intervention in schools.

Chapter One:

Introduction

Statement of the Problem

Disruptive behaviors can appear in children as young as two years old. The behaviors include aggression, non-compliance, temper loss, and low concern for others (Wakschlag et al., 2012) as a manifestation of emotional and behavioral dysregulation. The presence of disruptive behaviors, such as temper tantrums, in young children can be developmentally appropriate as toddlers begin testing limits. Disruptive behaviors occur on a continuum with the most significant problems often leading to a mental health diagnosis (Wakschlag et al., 2012). The Diagnostic and Statistical Manual of Mental Disorders-Fifth Edition (DSM-5; American Psychological Association, 2013) identifies a category of disruptive, impulse-control, and conduct disorders. ODD can be diagnosed in preschool aged children (Angold & Egger, 2007). Estimates of the prevalence of ODD range from 4-16% in preschool populations (Egger & Angold, 2006).

Children who exhibit disruptive behaviors during early childhood, with and without a DBD diagnosis, have significant risk for poor outcomes throughout their lives. Poor outcomes including additional behavior disorders (i.e., CD or antisocial behavior), low academic performance, school dropout, drug abuse, violence, and incarceration (Bradshaw et al., 2010; Tremblay, 2006). However, a body of literature exists to support the efficacy of early interventions in reducing this risk for young children (Garland, Hawley, Brookman-Fraee, &

Hulburt, 2008). In contrast, intervention with adolescents with DBDs is often ineffective, as delinquent behaviors and deviant peer groups are already established and diminished outcomes have already emerged (Piehler & Dishion, 2007). Thus, early intervention is particularly important with this population (Stormont, 2002; Webster-Stratton & Herman, 2010).

Various treatment options exist to treat the presence of disruptive behaviors in early childhood. The use of psychopharmacological treatments for children with DBDs has increased fivefold, despite the scant empirical support and unclear long-term side-effects (Zito et al., 2007). Psychotherapeutic treatments, however, have wide-spread support as the first line of treatment for reducing disruptive behavior due to the large literature base demonstrating their effectiveness (Comer et al., 2013; Gleason et al., 2007). These interventions include programs that involve skill-building (Kazdin & Wassell, 2000), school social emotional learning curriculums (Durlak et al., 2011), promoting teacher-child relationships (Driscoll & Pianta, 2010), teacher behavior management training (Kellem et al., 1994), and parent behavior management training (Piquero, Farrington, Welsch, Tremblay, & Jennings, 2009). However, these interventions typically address a single area of impairment. Intervening only in the home or the school environment may not lead to improvements in behavior across settings.

Children who exhibit clinically significant disruptive behaviors across settings should receive interventions that address multiple risk factors (Reinke, Splett, Robeson, & Offutt, 2009; Walker et al., 2003). Two ecological interventions for young students with pervasive behavior problems have empirical support, First Step to Success (Walker et al., 1998) and the Incredible Years (Webster-Stratton et al., 1984). First Step to Success includes intervention components aimed at enhancing the target child's skills as well as training teachers, parents, and peers to support the social emotional development of that child. Evidence supports the long-term

effectiveness of this intervention in reducing problem behaviors while enhancing appropriate academic and social skills (Lien-Thomas, & Kamps, 2005; Walker et al., 2009) and is targeted at early elementary school aged children (i.e., K-3). The Incredible Years provides an intervention program that includes preschool-aged children (i.e., ages 2-8), and incorporates parent training, teacher training, and a social skills curriculum. Research has demonstrated that this intervention improves parent and teacher skills, adult-child interactions, child problem behaviors, and child prosocial behaviors (Webster-Stratton, Reid, & Hammond, 2004). Furthermore, results from studies comparing the effectiveness of various combinations of the intervention components indicate that combining parent and teacher interventions lead to improved short- and long-term outcomes for students (Reid, Webster-Stratton, & Hammond, 2003). This finding suggests that intervention programs that incorporate both parent and teacher components can enhance the overall outcomes of young children with DBDs. Research is needed to extend effective parent-focused interventions to include a school component for children who continue to demonstrate behavior problems in that environment.

Parent-Child Interaction Therapy (PCIT) is a psychotherapeutic technique with a strong conceptual and empirical basis as a treatment for children with disruptive behavior disorders. It offers one of the few therapies that has been identified as an empirically supported treatment (EST) for intervening with children who have DBDs under strict criteria (Chambless & Ollendick, 2001). Additionally, this therapy offers a unique option for families. PCIT focuses not only on providing parents with behavior management training, but also spends a significant portion of the intervention building a secure, nurturing parent-child relationship through play therapy strategies. Moreover, PCIT provides individual coaching in these skills through the use of a bug-in-the ear technique. Parents must master each skill set before they can proceed through

therapy. This live performance feedback offers an effective method of building parents' skills (Eyberg & Funderburk, 2011).

PCIT aims to foster relationships between children and their parents, while providing parents with the tools to manage children's disruptive behaviors in the home environment. Research indicates that PCIT reduces disruptive behavior in children, improves parenting practices, reduces parental distress, improves parental self-efficacy both immediately following treatment (Schuhmann et al., 1998) and up to 6 years following treatment (Hood & Eyberg, 2003). Given the positive behavior outcomes of PCIT on disruptive behavior in the home, researchers have investigated whether these effects generalize to the classroom. Some evidence suggests that PCIT improves prosocial behaviors (McNeil, Eyberg, Eisenstadt, Newcomb, & Funderburk, 1991) and reduces disruptive behaviors and conduct problems (Funderburk, 1998; McNeil et al., 1991) in the classroom. However, methodological issues and inconsistent findings (i.e., non-significant changes in non-compliance; Bagner, Boggs, & Eyberg, 2010) reduce the confidence in the assertion that PCIT alone is an effective option for students with problem behaviors in school. Furthermore, improvements were not seen in behaviors related to academic functioning, specifically on-task behavior, hyperactivity, and inattention (Funderburk, 1998; McNeil et al., 1991). Thus, it is unclear whether students improve in their school functioning as a result of PCIT.

Since PCIT is an established treatment for children with disruptive behavior disorders at home, research has been conducted on a school-based variant of PCIT, Teacher-Child Interaction Training (TCIT). TCIT aims to help build teacher behavior management skills. Currently, multiple models of TCIT exist in the literature. Some of these models maintain the two main components of PCIT, increasing positive interactions and improving behavior management

strategies, as well as the live coaching of skills. However, these models train teachers in classroom-wide strategies, providing a universal prevention as opposed to an intensive intervention with a single student. These models have been shown to decrease disruptive behaviors, improve teacher-child relationships, and have high levels of treatment acceptability (Lyon, 2009; Tiano & McNeil, 2006). Moreover, only one case study exists in the literature demonstrating the use of TCIT as an intensive intervention with a single student (McIntosh et al., 2000). In this model, a teacher was coached weekly in her interactions with a single student. This intervention took place in a room in the school, outside of the classroom. Although the outcome data suggested that TCIT had an effect on teacher and student behavior, this study's methodology was limited. Since was a case study, changes in outcomes were described, but it could not be determined whether these changes were a function of the intervention. Furthermore, TCIT has not been studied as a school component of an ecological approach to intervention with young children with disruptive behaviors. Research is needed to determine if TCIT can provide an effective treatment option for students who continue to demonstrate impairment in the classroom following the implementation of PCIT.

Purpose of the Current Study

The present study aimed to examine the effects of TCIT on disruptive behavior problems in two kindergarten students when used as an addition to PCIT. This intervention study expanded upon previous TCIT models in two ways. First, TCIT was used as a targeted intervention for two individual students with disruptive classroom behaviors, as opposed to a universal prevention. Second, TCIT was implemented with students who also underwent PCIT as a way to generalize the effects of PCIT to the classroom. By conducting both PCIT and TCIT, the student received ecological services with the aim of generalizing effects across settings. Additionally, the present

study expanded upon McIntosh and colleagues' (2000) work by utilizing a more rigorous design, data collection procedures, and methodology.

Research Questions

This study sought to answer the following research questions:

1. To what extent is TCIT implemented with integrity:
 - a. By the therapists?
 - b. By the teacher participants?

Research related to the fidelity of implementation by the therapist has not been published. However, those implementing TCIT in the current study underwent training and utilized an intervention protocol to guide implementation. Therefore, it was hypothesized that the therapists would implement TCIT with over 90% integrity.

Intervention integrity was demonstrated by the teacher through their reports of practice of skills throughout the school day, whereas therapists were measured on the completion of each therapy session component. Research related to past models of TCIT indicate that although teachers improved in their use of TCIT skills in the classroom, the completion of specific practice sessions assigned as homework averaged 37.5% (Lyon, et al., 2009). Given the high number of time demands teachers face each school day, it was hypothesized that teacher implementation of practice sessions would be below 80%. However, given the individualized and collaborative nature of the studied model, a higher percentage than that found by Lyon and colleagues (2009) was expected.

2. Does TCIT improve teacher-child interactions, specifically:
 - a. Does TCIT increase the amount of positive feedback compared to negative feedback from the teacher for students with disruptive behavior problems?

- b. Does TCIT increase the amount of effective commands given by teachers to students with disruptive behavior problems?

It was hypothesized that TCIT would improve teacher-child interactions. Specifically, related to positive feedback, past research has indicated that other models of TCIT improved teachers' use of positive behavior management strategies and PRIDE skills (i.e., labeled praise, reflections, imitation, behavior description and enthusiasm; Lyon et al., 2009; McIntosh et al., 2000; Tiano & McNeil, 2006). Moreover, related to the use of effective commands, these past studies have led to fewer questions and commands (McIntosh et al., 2000) as well as more effective use of time-out (Lyon et al., 2009; Tiano & McNeil, 2006). Therefore, similar improvements in teacher skills, specifically the use of positive feedback and effect commands, were expected following implementation of the studied model of TCIT.

3. Does TCIT improve students' disruptive behavior problems in the school setting?

It was hypothesized that implementation of TCIT would result in a decrease of disruptive behavior problems in the classroom to normal levels. This hypothesis stemmed from past research on TCIT as an intensive intervention (McIntosh et al., 2000) indicating that TCIT impacts student disruptive behavior in the schools.

4. Does TCIT improve teacher stress related to student problem behaviors?

It was hypothesized that TCIT would reduce teacher stress related to the student's problem behaviors. Although the literature has not investigated the effect of TCIT on teacher stress, research related to PCIT has demonstrated a reduction in parent stress as an outcome of the therapy (Schuhmann et al., 1998; Thomas & Zimmer-Gembeck, 2007). Similar reductions in teacher stress were expected.

5. Does TCIT improve teacher-child relationships for children who demonstrate disruptive behaviors?

It was hypothesized that teacher-child relationships would improve as a function of TCIT. Although no study has investigated this outcome, improving teacher-child interactions comprise a major goal of the intervention. Furthermore, the mechanisms to improve interactions stem directly from PCIT, which has evidence indicating these skills improve adult-child relationships (Schuhmann et al., 1998; Thomas & Zimmer-Gembeck, 2007).

6. Do teachers consider TCIT an acceptable treatment option for students who demonstrate disruptive behaviors in the classroom?

It was hypothesized that teachers would consider TCIT an acceptable treatment option for students with disruptive behavior problems. One past study examined teacher satisfaction with TCIT as a universal prevention (Lyon, et al., 2009) and found that teachers considered the skills useful, had increased self-efficacy, considered the coaching effective, and were overall satisfied with the training. Because the studied model targeted teachers who felt challenged by the target student and included individualized teacher training, similarly high levels of acceptability were expected.

Definition of Key Terms

Disruptive Behavior Problems. Disruptive behaviors include noncompliance, aggression, temper loss, and low concern for others (Wakschlag et al., 2012). The presence of multiple disruptive behaviors at clinically significant levels may result in a diagnosis of a Disruptive Behavior Disorder (DBD). DBDs are a class of mental health disorders defined by the Diagnostic and Statistical Manual of Mental Disorders-5th Edition (DSM-5; American Psychological Association [APA], 2013). This class of disorders includes oppositional defiant

disorder (ODD) and conduct disorder (CD) that can be diagnosed during preschool (Angold & Egger, 2007; Martel, Gremillion & Roberts, 2012). ODD is characterized by an irritable mood, defiant behavior, or vindictiveness. Those diagnosed with CD exhibit behaviors, such as aggression or destruction of property, that violate others' basic rights or major societal norms (APA, 2013).

Single Case Design. Single case design (SCD) provides a methodological design that examines changes in outcomes across phases. This design is particularly suited for intervention studies with a small number of participants. Changes are analyzed between a baseline phase, which indicates the patterns of the outcome if no intervention were to take place, and a treatment phase, which include the patterns after implementation of the intervention. Outcomes are measured through the continuous collection of a large number of data points with a small number of participants, as opposed to other designs that collect data at one or two time points with a large sample. SCD provides advantages related to interventions studies beyond the feasibility of a smaller sample size. Specifically, nuances related to change over time can be examined, each participant can serve as his/her own control, and generality can be feasibly assessed (Kazdin, 2011).

Parent-Child Interaction Therapy (PCIT). PCIT is psychotherapeutic intervention for children age 2- 7 years old who exhibit disruptive behaviors. This treatment is an individual parent training therapy that improves parent-child interactions to yield a nurturing, yet firm, relationship. Parents are coached through a bug-in-the-ear technique to use play therapy techniques to build a secure relationship as well as effective and consistent behavior management strategies (Eyberg & Funderburk, 2011). PCIT has demonstrated effectiveness in

reducing children's disruptive behaviors and improving parent-child interactions (Schuhmann et al., 1998; Thomas & Zimmer-Gembeck, 2007).

Teacher-Child Interaction Therapy (TCIT). TCIT adapts the conceptual underpinnings of PCIT to train teachers in their interactions with students. Models currently in the literature (Fernandez et al., 2014; Gershenson et al., 2010; Tiano & McNeil, 2006) train teachers in management strategies applied to the whole classroom. In the present study, a model of TCIT was used that provided an intensive intervention for students with disruptive behaviors and followed the implementation of PCIT to provide ecological treatment. TCIT provided the teachers with live, over the shoulder coaching in skills adapted from PCIT. This intervention aimed to improve teacher-child relationships, reduce child disruptive behaviors, and improve the teacher's behavior management skills.

Teacher-Child Relationships. Children with disruptive behavior concerns often have diminished interpersonal functioning. Relationships between these children and adults can be strained and characterized by punishment and negative interactions (Maag, 2001; Reinke & Herman, 2002). Furthermore, teacher-child relationships predict academic and behavioral outcomes throughout elementary school (Hamre & Pianta, 2002). Thus, school-based interventions for children with disruptive behaviors in school should include building a secure student-teacher relationship. The current study examined student-teacher relationships in terms of the conflict (i.e., feelings of negativity, low self-efficacy, and uncertainty) and closeness (i.e., feelings of affection, warmth and support) the teacher perceived with the target student.

Feedback. Teacher-child interactions can help to shape children's behavior. In the current study, these interactions were grouped into two behavior classes, positive feedback and negative feedback. Positive feedback included verbal attention from the teacher to an appropriate

behavior. Examples are labeled praise, behavior descriptions, or reflections. Conversely, negative feedback included questions, commands, and criticisms in response to inappropriate or annoying behaviors. TCIT aims to increase teachers' use of positive feedback and decrease their use of negative feedback.

Effective Commands. Teachers must give commands throughout the day. In TCIT, teachers are taught to give effective commands to increase the likelihood that they will be understood and subsequently followed by students. Examples of strategies to make commands more effective include using direct statements as opposed to indirect commands, using brief commands, and ensuring that commands are developmentally appropriate (see Table 7 for a full list of guidelines and examples of effective commands).

Contribution to the Current Literature

Young children who exhibit disruptive behaviors comprise a population that warrants significant attention in policy, practice, and research due to the pervasive presence of associated risk factors (Bradshaw et al., 2010; Tremblay, 2006). The development and implementation of evidence-based, comprehensive, early intervention should be a central aim of professionals dedicated to aiding this population. For children whose behavior limits development across multiple settings, an ecological approach to intervention should be adopted. Currently, only a few multi-setting interventions have empirical support (i.e., First Step to Success, Walker et al., 1998 and the Incredible Years, Webster-Stratton, 1984). However, research supports the increased effectiveness of early intervention when applied to both the home and school (Reid, Webster-Stratton, & Hammond, 2003).

Research supports the use of PCIT as an effective treatment option for young children with severe externalizing behaviors (Nixon, 2001; Schuhmann et al., 1998). Moreover, the

underlying principles of PCIT have been adapted to the classroom through a universal prevention program, Teacher-Child Interaction *Training*, and demonstrated an impact on teacher skills. Few of these studies have maintained the use of certain therapeutic skills and in vivo coaching (Lyon et al., 2009; Tiano & McNeil, 2006). Additionally, only one case study (McIntosh et al., 2000) examines the use of Teacher-Child Interaction *Therapy* (TCIT) as an intensive intervention targeted towards a student with disruptive behaviors in the classroom. No research has examined the additional benefit of providing TCIT in concert with PCIT to provide comprehensive treatment for disruptive behaviors. The present study addressed this gap in the literature by investigating the benefits of TCIT for children with classroom disruptive behaviors who have received PCIT to address problem behaviors in the home as well as maintaining the core components of PCIT. Furthermore, TCIT has been studied exclusively in preschool (McIntosh et al., 2000) and Head Start (Tiano & McNeil, 2006) settings. This study extends past research by implementing the intervention in kindergarten classrooms.

The design of this study provided a more methodologically rigorous investigation of the use of TCIT as a targeted intervention than past research on a similar model (McIntosh et al., 2000). The implementation with two participants allowed for the use of a non-concurrent multiple baseline design. By utilizing continuous assessment of multiple outcome variables, the nuances of the effects and non-effects of the intervention were analyzed. Analysis of the current study improved upon past research by establishing a baseline and utilizing masked visual analysis to further support the findings. Methodological rigor was further enhanced by adding a regression analysis of the continuous variable. Thus, the current study presents a unique, ecological model of implementation as well as advances in the methodological analysis of the effects of TCIT.

Chapter Two:

Review of the Literature

Young children who exhibit disruptive behaviors represent a population at-risk for diminished outcomes that persist into adulthood (Bradshaw et al., 2010). Research has investigated the developmental trajectories for these youth (Tremblay, 2006) as well as the effectiveness of early intervention (Kellam & Langevin, 2003). This chapter summarizes the literature related to the outcomes associated with and treatment options for DBDs. First, the characteristics of this class of mental health disorders is outlined along with the prevalence, commonly comorbid conditions, and related classifications within special education. Children diagnosed with disruptive behavior problems have impaired functioning across multiple domains. A discussion of the prognosis for these children is included to highlight the need for early intervention with this population. Next, the empirical support for various treatment options for disruptive behaviors focused on the child, teacher, and parent is evaluated, including interventions that target both the home and school setting. Literature describing a specific empirically supported intervention, parent-child interaction therapy (PCIT; Eyeberg, 1999), is summarized to highlight the appropriateness of this intervention for use with preschool-aged children who exhibit disruptive behaviors. A discussion of the research on Teacher-Child Interaction Therapy (TCIT), a school based variant of PCIT, is provided. This section will highlight research on this program, as well as identify gaps in research evaluating this model.

Disruptive Behaviors

Disruptive behaviors, specifically noncompliance, aggression, temper loss, and low concern for others, can emerge in preschool aged children (Wakschlag et al., 2012). These behaviors can range from levels that are developmentally appropriate to levels that indicate the presence of a Disruptive Behavior Disorder (DBD). Literature outlining disruptive behaviors, related disorders, prevalence, and comorbidity are discussed as well as an explanation of the terminology used in schools related to disruptive behavior problems will be discussed.

Dimensions of disruptive behaviors. Disruptive behaviors include four dimensions, noncompliance, aggression, temper loss, and low concern for others (Wakschlag et al., 2012). Wakschlag and colleagues (2012) defined these dimensions in preschool aged children from a developmental approach. Although aspects of disruptive behaviors may be normative in preschool aged children, certain indicators define clinical features of these behaviors. Noncompliance can be normatively appropriate as preschool aged children test limits to express autonomy. However, failure to internalize rules and pervasive noncompliance indicates clinical disruptive behavior. Aggression can appear by 18 months as a typical response to conflict with peers, but recalcitrant hostility that is proactive as opposed to reactive suggests atypical disruptive behavior, Temper tantrums are also typical in this age group when young children become frustrated. Typical children learn to regulate their emotions and coping strategies to deal with frustration. Those who continue to lose their tempers and exhibit intense tantrums can be classified as having clinical levels of disruptive behaviors. Preschool aged children may also display low concern for others' needs and feelings when these are in direct conflict of their own goals. Atypical concern for others is demonstrated by a lack of empathy or enjoyment of others'

distress. The presence of these clinical indicators of disruptive behaviors suggests psychopathology.

Diagnostic criteria. The Diagnostic and Statistical Manual of Mental Disorders-Fifth Edition (DSM-5; American Psychological Association [APA], 2013) contains a category of disruptive, impulse-control, and conduct disorders, which includes oppositional defiant disorder (ODD), intermittent explosive disorder, conduct disorder (CD), antisocial personality disorder, pyromania, kleptomania, other specified disruptive, impulse-control, and conduct disorder, and unspecified disruptive, impulse-control, and conduct disorder. Those diagnosed with these disorders display disruptive behaviors as a manifestation of emotional and behavioral dysregulation.

Of these disruptive behavior disorders (DBDs), ODD and CD can be diagnosed in preschool aged children. Diagnostic criteria for ODD include, “a pattern of angry/irritable mood, argumentative/defiant behavior, or vindictiveness . . . and exhibited during interaction with at least one individual who is not a sibling” (APA, 2013, p. 462). To meet criteria, children must display at least four symptoms over the past six months. Examples of symptomology include easily losing one’s temper, arguing with authority, deliberately annoying others, and being spiteful or vindictive. CD consists of, “a repetitive and consistent pattern of behavior in which the basic rights of others or major age-appropriate societal norms or rules are violated,” (APA, 2013, p. 469). These behaviors include aggression to people or animals, destruction of property, deceitfulness or theft, and serious violations of rules. Three of these conduct problems must be present in the past 12 months, with at least one in the past six months. Individuals diagnosed with CD prior to the age of 10 are identified as having childhood-onset type of CD. For both ODD and CD, the symptomology must cause functional impairment as well as distress either to the

individual or a significant other, including family member, peer, or colleague. Additionally, the symptoms cannot be explained by an alternative diagnosis.

According to the DSM-5, the onset of ODD usually occurs in preschool. 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. Typically developing children can often exhibit disruptive behaviors at a higher rate than older populations through behaviors such as tantrums and limit testing (Angold & Egger, 2007; Keenan & Wakschlag, 2000; Wakschlag, Tolan, & Leventhal, 2010). The DSM-5 even notes that children under five years old must display disruptive behaviors more frequently (i.e., most days) than older children (i.e, once per week) to meet diagnostic criteria (APA, 2013). Although there has been some debate over the appropriateness of diagnosing such young children with DBDs, research has demonstrated that a subgroup of children exhibit clinically high levels of negative affect and surgency and low levels of effortful and reactive control when compared to same-aged peers (Martel, Gremillion, & Roberts, 2012). Furthermore, the presence of symptomology at this young age predicts a continued trajectory of disruptive behaviors (Tremblay, 2006). Thus, clinicians must be cognizant of the developmental trajectory of these disorders and how they may manifest differently in preschool-aged children's behavior.

Prevalence. According to the DSM-5 (APA, 2013), 1-11% of the population has a diagnosis of ODD. Prior to adolescence, males have a higher rate of ODD diagnoses than females, but the lifetime prevalence of this diagnosis is similar for both genders (i.e., males = 11.2%; females = 9.2%; Nock, Kazdin, Hiripi, & Kessler, 2007). The DSM-5 also reports the median prevalence rate for CD is 4%, ranging from 2-10%, with a consistent male predominance

(APA, 2013). Evidence suggests that a 3:1 ratio of boys to girls exists for children meeting criteria for CD (Rowe, Maughan, Pickles, Costello, & Angold, 2002). The 2011-2012 National Survey of Children's Health (NSCH), which 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). For children 3-17 years old, 4.6% had a history of ODD or CD 1.3% of children with behavior and conduct concerns were preschool age (i.e., 3-5 years old; CDC, 2013b). Previous research has demonstrated that black, non-Hispanic boys have a disproportionately high prevalence (Merikangas et al., 2010).

Studies have investigated the prevalence rates of DBDs in preschool populations. In a study with 796 four-year olds, prevalence rates for ODD and CD range from 4-16% and 0-6.6%, respectively (Egger & Angold, 2006). As these percentages suggest, preschool aged children can be diagnosed with ODD at a rate comparable to older populations, however diagnoses of CD are uncommon. Additionally, children who display clinical disruptive behaviors at a young age may be classified as developmentally delayed or diagnosed DBD-Not Otherwise Specified to avoid the stigma of an ODD or CD diagnosis. Research conducted by Fuchs, Klein, Otto and Klitzing (2013) used a sample of 1,738 children aged 37-63 months to examine the presence of emotional and behavior symptoms in preschoolers. The prevalence for borderline conduct problems, peer problems, prosocial behavior, and total difficulties were 6.6%, 4.6%, 7.0%, and 8.2% respectively. The rates of clinically significant or abnormal symptoms were 6.3% for conduct problems, 3.7% for peer problems, 3.0% for prosocial behavior, and 7.8% for total problems (Fuchs, et al., 2013).

Comorbidity. Individuals diagnosed with DBDs have high levels of comorbidity with other disorders. In a sample of youth under the age of 15, 36% of females and 46% of males diagnosed with ODD met criteria for an additional DSM diagnosis, with Attention-Deficit/Hyperactivity Disorder (ADHD) representing the most common comorbid condition (boys = 29.5%, girls = 16.7%; Maughan, Rowe, Messer, Goodman, & Meltzer, 2004). . Adolescents and adults with ODD are at higher risk for anxiety disorders, depressive disorders, and substance use disorders (APA, 2013). Furthermore, childhood-onset ODD is often a precursor to CD. Of those diagnosed with ODD before the age of seven, 57% of females and 60% of males meet criteria for CD by the time they turn 15 years old (Maughan et al., 2004). Similar to ODD, a large percentage of children with CD also meet criteria for another disorder (i.e., 39% of females and 46% of males) with ADHD being the most common comorbid diagnosis (boys = 30.8%, girls = 16.4%; Maughan et al., 2004). Additionally, children with CD often have low achievement and may meet criteria for a specific learning disability or communication disorder. Individuals with CD are also at risk for developing antisocial personality disorder, anxiety disorders, depressive disorders, bipolar disorder, and substance use disorder (APA, 2013).

Past research has demonstrated that this co-morbidity is common among preschoolers with DBDs, with rates ranging from 18.2 - 51.6%. The majority of preschoolers with co-morbid conditions meet the criteria for a DBD and ADHD (16.4% - 30.8%; Maughan et al., 2004). Furthermore, young children who present with multiple diagnoses have significantly higher levels of impairment (Egger & Angold, 2006).

Exceptional Student Education Classification. Individuals with mental health diagnoses are classified under the DSM-5 in clinical practice (APA, 2013). However,

individuals are classified under a different classification system within the schools. The Individuals with Disabilities Education Act (IDEA, 2004) procures services for students who demonstrate functional impairment in school resulting from a disability. IDEA mandates that states provide special education services, referred to as Exceptional Student Education (ESE) in the state of Florida, for students who meet criteria for one of the fourteen categories. Children with DBDs may qualify for ESE under the category of Emotional/Behavioral Disabilities (EBD).

The specific criteria to qualify under each IDEA category are determined by each individual state. The Florida Department of Education (FLDOE) defines EBD as a student with “persistent (is not sufficiently responsive to implemented evidence-based interventions) and consistent emotional or behavioral responses that adversely affect performance in the educational environment that cannot be attributed to age, culture, gender, or ethnicity” (FLDOE, 2013, p. 270). This impairment must have been present in multiple settings for at least six months. Furthermore, the cause of this impairment must be explained by internalizing or externalizing factors. The externalizing factors characterizing EBD include either an inability for that student to establish interpersonal relationships or “behaviors that are chronic and disruptive, such as noncompliance, verbal and/or physical aggression, and/or poorly developed social skills, that are manifestations of feelings, symptoms, or internalizing behaviors” (FLDOE, 2013, p. 271). If a student meets these characteristics as well as demonstrates need for additional services, he or she can obtain services in the school system.

Given the high percentage of comorbid conditions, students with DBDs may meet the criteria and demonstrate need for support under other special education categories. For example, those with comorbid DBD and ADHD may qualify for services under Other Health Impaired (OHI), or those with learning delays may qualify under Learning Disability (LD) category.

In sum, children with DBDs often also qualify for special education services under various categories, including EBD, LD, or OHI, depending on the symptomology they exhibit at school. Those who qualify for EBD due to externalizing behaviors often have DBDs. Although not all children who receive services for EBD are diagnosed with a DBD, the criteria overlap. These classifications are often only distinguished by the setting being discussed. Thus, students who exhibit a level of externalizing behaviors that align with the criteria for EBD, will be referred to as students who exhibit disruptive behaviors for the remainder of the document.

Outcomes

Children diagnosed with DBDs have significant impairments across multiple domains of functioning. Moreover, those who are diagnosed during early childhood are at increased risk for poor outcomes throughout their lives. The presence of psychopathology in preschool predicts poor psychosocial (Bradshaw et al., 2010; Greene et al., 2002), interpersonal (Eddy, Leve, & Fagot, 2001; Maag, 2001; Piehler & Dishion, 2007), and academic outcomes (Anderson, Kutash, & Duchnowski, 2001; Smith, Katsivannis, & Ryan, 2011).

Psychosocial functioning. Individuals with childhood-onset DBDs are at higher risk for being diagnosed with co-morbid conditions, such as ADHD and other DBDs as outlined previously (Maughan et al., 2004). These youth are at risk for additional psychosocial maladjustment including persistent disruptive behaviors (Bradshaw et al., 2010), violence (Loeber, Burke, & Pardini, 2009), delinquency (Broidy et al., 2003), substance use (Flory et al., 2003), as well as additional internalizing and externalizing disorders (Greene et al., 2002).

Longitudinal studies have been conducted to demonstrate that the trajectory of youth who displayed patterns of disruptive behaviors early in childhood continue to follow a path of deviant behaviors that often escalate, resulting in various negative life outcomes. For example,

Bradshaw and colleagues (2010) studied the outcomes of 1,137 children from six years old to 19-20 years old. The presence of disruptive behaviors in early childhood predicated the quantity of negative life outcomes for both males and females. Negative outcomes that youth were at risk for included promiscuity and pregnancy, high school drop-out, alcohol/drug use, and unemployment.

The early onset of conduct problems also predicts the presence of violent behavior in adolescence. Unabated, disruptive behaviors such as aggression and noncompliance can escalate and develop into a pattern of violence (Loeber et al., 2009). One study compiled the trajectories of children from six sites and across three countries to examine the development of physical aggression (Broidy et al., 2003). Results indicated that, although not all children who were aggressive between 5-7 years old continued to exhibit aggression, a subgroup with the most extreme behaviors at this young age displayed chronic aggression through adolescence. Furthermore, males in this subgroup with the most extreme behavior, which is likely to include those diagnosed with DBDs, were at risk for both violent and nonviolent delinquency.

Young adults with comorbid diagnoses of CD and ADHD are at particular risk for engaging in substance use. In a study with 481 young adults, Flory and colleagues (2003) demonstrated that the interaction between high rates of hyperactive-impulsive-inattentive symptoms related to an ADHD diagnosis and the conduct problems associated with CD symptomology in childhood predicted the presence of substance use in young adulthood. These findings have been supported by additional research that found comorbid CD and ADHD to be predictive of substance use disorders, smoking, and bipolar disorder above diagnoses of ADHD alone or comorbid ODD and ADHD (Biederman et al., 2008).

Those diagnosed with CD, either alone or along with ODD or ADHD, tend to display higher rates of substance use, delinquency, and incarceration, while a diagnosis of only ODD is significantly predictive of internalizing disorders, such as mood or anxiety disorders, over other combinations of externalizing disorders (Greene et al., 2002). This suggest that although both CD and ODD lead to diminished behavioral and emotional concerns, CD may account for more impairment in externalizing behaviors, whereas ODD is more related to internalizing concerns.

Interpersonal functioning. Children with DBDs have diminished social skills and poor interpersonal functioning. The nature of disruptive behaviors as well as resulting coercive interaction patterns impair these children's relationships with family members (Eddy, Leve, & Fagot, 2001), school personnel (Maag, 2001), and peers (Piehler & Dishion, 2007).

Patterson (1982) posits that a reciprocal relationship exists between harsh parenting styles and child disruptive behaviors. This theory, named the coercive family process, asserts that children with DBDs often respond to a parent's command with noncompliance. When a child ignores a parent's request, the parent may respond with yelling or harsh parenting strategies. A coercive cycle is begun when the behavior of both the parent and the child escalates until the parent allows the child to escape the command. This negatively reinforces noncompliance and disruptive behaviors and the parent-child relationship becomes characterized by harsh, negative interactions. This model was tested in 5-year-old children through confirmatory factor analysis by Eddy and colleagues (2001). Findings indicate that these processes are present in both male and female children who display clinically significant levels of aggressive behaviors.

Greene and colleagues (2002) further investigated the rates of family and social dysfunction among a clinical sample ($n = 1600$) of youth with and without DBDs. Results indicated that youth with DBDs, either ODD, CD, or ODD and CD, demonstrated significantly

impaired family and social functioning. Those with conduct problems had problems interacting with multiple individuals, including peers, siblings, and parents. Additionally, they tend to have less family cohesion and more conflict than typical youth.

The harsh reactivity, punishment, and conflict that characterizes the family interactions for youth with DBDs is often transferred to relationships with adults in schools (Reinke & Herman, 2002). Teachers, particularly those without training in positive behavior supports, often establish similar coercive interaction patterns. Maag (2001) posits that a punishment paradigm, similar to the coercive family process, is often established in schools. When a child is disruptive, teachers and other school personnel typically respond with punishments such as sending the child out of the classroom. The child escapes the original request and the disruptive behavior is reinforced. Additionally, these punishments often stop the problem behaviors, reinforcing the teacher's use of these strategies. Without the presence of positive reinforcement of appropriate behavior, a coercive cycle of escalated misbehavior and punishment can be established. These negative interactions damage the already strained relationship between students with DBDs and their teachers.

Poor interpersonal functioning of youth with DBDs extends to peer relationships. Children with DBDs often use the interpersonal dysfunction learned through coercive cycles with adults as a model for their interactions with peers. Peer relationships marked with coercive behaviors begin as early as preschool (Dishion, French, & Patterson, 1995). The lack of appropriate social skills leads to peer rejection, making it more difficult for these children to form long-lasting, high quality friendships throughout childhood and adolescence (Miller-Johnson, Coie, Maumary-Gremaud, & Bierman, 2002; Dishion, Nelson, & Bullock, 2004). Moreover, as these children continue in their education, they are often placed in settings that

expose them to other rejected and disruptive students (Patterson, Dishion, & Yoerger, 2000). These children form friendships centered on deviant talk (Piehler & Dishion, 2007). The discussion and execution of deviant acts become the method of social evaluation among these groups, a process called deviancy training. Although this process is typical in later childhood and adolescence, deviancy training emerges as early as kindergarten and is predictive of higher levels of conduct problems and delinquency (Snyder et al., 2008).

Cognitive/academic outcomes. The various risks associated with DBDs extend into the school setting as well. These children have higher rates of disciplinary action in school (Walker, Horner, Sugai, & Bullis, 1996), as well as higher rates of placement in restrictive settings (Smith et al., 2011). Moreover, these students are at risk for academic underachievement (Anderson et al., 2001) and attrition (Bradshaw et al., 2010).

Children with DBDs have a higher rate of ODRs, suspensions, and expulsions in elementary school as compared to typically developing peers (Walker et al., 1996). Specifically, both ODD and CD are predictive of school suspensions, and CD is associated with higher rates of school expulsion (Biderman et al., 2008). This higher rate of disciplinary action emerges as soon as these children enter school. Gilliam and Shahar (2006) found that children who exhibit disruptive behaviors are 13 times more likely to be expelled from preschool than elementary or secondary grades. This is likely due to the non-mandatory status of preschool, thus schools have less accountability to provide a wide-range of services during preschool. It is concerning that such young students, who are already at such high risk, have negative school experiences before formal education begins.

The time a student spends engaged in instruction is crucial to a student's academic development (Walker, Ramsey, & Gresham, 2003). The nature of disruptive behaviors as well

as the reduced time in the classroom resulting from these punishments leads to a significant loss of academic engaged time for these students (Arnold, 1997; Walker et al., 2003). Additionally, students with externalizing behaviors who have functional impairment in school (i.e., those classified as EBD) are more likely to be educated in a restrictive environment. This often leads to less educational opportunities and academic underachievement (Smith et al., 2011).

Students with DBDs may be at more risk for academic underachievement than other populations. Anderson and colleagues (2001) compared the academic outcomes of students with DBDs ($n = 42$) and those served through ESE under the category of learning disabled (LD; $n = 61$). Despite comparable scores on measures of intelligence and standardized achievement, students with DBDs received lower academic grades than those with LDs. This academic underachievement occurs across all of the subjects and is more pervasive for students with externalizing behaviors as opposed to internalizing behavioral disorders (Nelson, Benner, Lane & Smith, 2004). The prognosis is particularly poor for those who have academic impairment in schools that necessitate special education services (Wiley, Siperstein, & Forness, 2011).

Research with 86 elementary age students indicated that regardless of SES, type of special education, or related services, those with DBDs did not improve in achievement or behavior outcomes over the course of two years (Wiley, et al., 2011). This poor academic performance coupled with higher rates of strict disciplinary action yields long-term negative outcomes. As discussed previously, this population is at pronounced risk for dropping out of high school and unemployment (Bradshaw et al., 2010).

Prevention and Early Intervention

Given the high risk of negative, life-long outcomes for children who display disruptive behaviors in early childhood, prevention and early intervention are critical (Kellam & Langevin,

2003). The literature suggests that aggressive behaviors emerge during infancy and toddlerhood (Tremblay et al, 2004), but see a marked decline beginning in early childhood (i.e., approximately age 6) and continuing into adolescence (NICHD Network ECCR, 2004). Preschool marks a critical period for developing emotion regulation and learning appropriate alternatives to disruptive behaviors (Humphries & Keenan, 2006; Tremblay, 2006). However, a subset of children does not learn these skills during this period, and continue to follow trajectories of disruptive and aggressive behaviors throughout adolescence and into adulthood (NICHD Network ECCR, 2004). Thus, the preschool years provide an ideal time to identify children who exhibit clinical levels of disruptive behaviors and implement supports for the prevention and early intervention. Not only is this an optimal period of development for emotion regulation, but appropriate alternative behaviors can also be taught before inappropriate behavior become entrenched, and thus more difficult to alter (Burns, Hoagwood, & Mrazek, 1999).

As discussed previously, patterns of dysfunctional interactions with adults can emerge in early childhood. Once coercive cycles with parents become routine, they can become more difficult to alter (Patterson et al., 1992). Furthermore, children who enter classrooms displaying disruptive behaviors often struggle to develop healthy relationships with school professionals, resulting in coercive processes at school as well as at home (Maag, 2001). The influential effect of deviant peer groups further highlights the need for early intervention for youth who display disruptive behaviors. As discussed previously, those who display antisocial behaviors beginning in early childhood tend to have poorer interpersonal functioning, resulting in fewer quality friendships and higher rates of peer rejection (Dishion et al., 2004). Furthermore, these children have a compounded risk of developing deviant peer groups characterized by discussion and execution of deviant acts. Therefore, early intervention may be crucial in not only promoting

positive behaviors, but also in teaching skills to initiate and maintain healthy relationships. These normative friendships may then serve as a protective factor against the deviancy training common among the peer groups that those with disruptive behavior problems may form (Piehler & Dishion, 2007). Similarly, positive interactions patterns with parents (Eddy, Leve, & Fagot, 2001) and healthy relationships with teachers (Hamre & Pianta, 2001) can serve as protective factors for these children.

Cicchetti (1984) proposes an approach to the treatment of youth with mental health disorders termed developmental psychopathology. This perspective highlights the necessity for the proactive, multidimensional, and ecological treatment of psychopathology. Developmental psychopathology suggests that once signs of psychopathology emerge, the child's strengths and resiliency factors should be fortified and protective factors promoted. Additionally, this approach advocates looking at psychopathology from an ecological perspective to lessen contextual factors that contribute to the presence and exacerbation of deviant behaviors. This often includes implementing interventions at multiple levels of functioning and in multiple settings.

Early intervention is critical for young children who exhibit disruptive behaviors to curtail the trajectory of persistent disruptive behaviors before these maladaptive behaviors become entrenched (Burns et al., 1999; Tremblay, 2006) coercive cycles with significant adults are established (Maag, 2001; Patterson, 1989) and deviant peer groups are formed (Piehler & Dishion, 2007). Developmental psychopathology can be a useful framework for prevention and early intervention as it promotes intervention across multiple domains and building on malleable protective factors (Cicchetti, 1984). Thus, practitioners should utilize early, evidence-based interventions that address the specific areas of impairment for children with disruptive behaviors.

Treatment Options for Young Children who Exhibit Disruptive Behaviors

The treatment of youth who exhibit clinically significant disruptive behaviors has been extensively investigated. Treatment options typically fall under two categories, psychopharmacological treatments or psychotherapeutic treatments. Psychotherapy is recommended as the first line of treatment for youth with DBDs, especially preschool-aged children (Gleason et al., 2007). The use of psychopharmacological treatments for DBDs in this young population has not been well studied, therefore the impact on symptoms and potential side effects are not well understood (Pappadopulos et al., 2003). Nevertheless, disruptive behaviors are managed with medication as opposed to behavioral or therapeutic techniques for many young children (Zito et al., 2007). A review of the evidence related to various treatment options as well as the particular considerations for preschool-aged children are discussed in the following section.

Psychopharmacological treatment. No psychopharmacological treatment exists to cure DBDs. Additionally, no medication has been formally approved as a treatment for ODD or CD. However, a variety of medications are used to reduce the symptoms associated with these disorders, including antipsychotics and stimulants (Pappadopulos et al., 2003). Furthermore, given the high prevalence of comorbidity, children with DBDs often take medication to treat comorbid conditions such as ADHD (Gleason et al., 2007).

No well-designed, controlled studies have been conducted for the psychopharmacological treatment of DBDs alone. Antipsychotics, also known as neuroleptics or major tranquilizers, are the most common psychopharmacological treatment for aggression. However, limited evidence exists to support their use with youth (Pappadopulos, et al., 2003). Haloperidol, a common antipsychotic, has been used to reduce severe aggression in children. But this medication may

have adverse side effects, including serious dyskinesia (involuntary movements), and must be closely monitored (Campbell et al., 1984). One retrospective study conducted by Cesena and colleagues (2002) investigated the impact of another antipsychotic, risperidone, on the disruptive behaviors of young children ($n = 8$). They found that risperidone reduced the severity of aggressive behaviors by 36%. Additionally, this medication may be more tolerable in preschool aged children. Thus, risperidone is recommended as the psychopharmacological treatment of choice when DBDs are the primary diagnosis, despite the scant literature. (Biederman et al., 2005; Cesena et al., 2002).

Often when medication is used to treat DBDs, a comorbid condition is the primary diagnosis (Pappadopulos et al., 2003). The most common co-morbid condition is ADHD, which is often treated with stimulant medications, such as methylphenidate (Conner et al., 2003). Evidence exists to support the use of methylphenidate to reduce aggression, stealing, and property destruction. However, this treatment is only successful for older children with comorbid CD and ADHD (Greenhill et al., 2006). Similarly, antihypertensives (i.e., Clonidine) have been found to reduce defiance and aggression in children and adolescents with ADHD diagnoses in addition to DBDs (Gerardin, Cohen, Mazet, & Flament, 2002).

As highlighted above, there is a lack of information regarding the efficacy, side effects, and long-term developmental consequences of using psychopharmacological treatments with preschool children. Moreover, the FDA has not approved any psychotropic medications for treatment of DBDs in preschool children (Gleason, 2007). Despite the scant research and lack of formal approval, physicians have been prescribing medication to treat disruptive behaviors at an increasing rate. Between the years of 1995 and 2001, one study estimated that the use of antipsychotics increased fivefold (Zito et al., 2007). Another investigation determined that from

1999 to 2007, the rate preschool-aged children with private insurance were prescribed medication to treat disruptive behaviors doubled, in spite of a decline in the utilization of psychotherapeutic treatments (Olfson, Marcus, Weissman, & Jensen, 2002).

In response to the controversial use of medication to treat various psychopathology in preschool-aged children, the American Academy of Child and Adolescent Psychiatry developed the Preschool Pharmacology Working Group (PPWG) to review the literature regarding psychopharmacological treatment and outline best practice in intervening with young children. The PPWG suggests numerous steps for clinicians to follow, with medication being the last option. First, a comprehensive assessment is particularly important with this population since distinguishing between various mental health disorders and determining clinical levels of disruptive behaviors is difficult at this young age. Once a DBD diagnosis is confirmed, psychotherapy should be implemented. For preschoolers, parent management or interaction therapies are recommended. If progress is made, outcomes should continue to be monitored. If no progress is made, parental psychopathology should be assessed and, if present, treated since parent factors can diminish the positive outcomes of these therapies. Third, if any comorbid conditions exist, those should be treated appropriately. Lastly, if the DBD continues to cause severe persistent impairment and symptoms, then Risperidone should be prescribed and closely monitored for six weeks to determine if medication should be used as a treatment option (Gleason et al., 2007).

As highlighted in the literature (Pappadopulos et al., 2003) and the practice guidelines outlined by the PPWG (Gleason et al., 2007), psychopharmacology is commonly used in the treatment of disruptive behaviors. However, this option does not have a strong evidence base,

and thus should only be used in cases that are severe and do not respond to other therapeutic techniques.

Psychotherapeutic treatment. Psychotherapeutic interventions provide a superior treatment option compared to psychopharmacology for young children who exhibit disruptive behaviors due to their demonstrated effectiveness and minimal risk. However, these efforts require a significant amount of time and resources, which often leads to improper implementation or use of pharmaceutical treatments (Comer et al., 2013). Various types of therapeutic interventions exist that can be implemented in multiple settings. Treatments that take place in clinical setting typically focus on building the child's skillset or parent training in behavior management or parent-child interactions. Children who exhibit disruptive behaviors in the schools may receive tiered interventions. These interventions include prevention programs, socio-emotional curriculums, contingency management, and teacher training. Often the setting for intervention is determined by the functional impairment of the child and the resources available. This section presents efficacy research related to evidence-based interventions for the treatment of youth with disruptive behavior problems. Specifically, three categories of evidence-based interventions, skill-building, school-based, and parent training, will be outlined.

Skill-building interventions. Young children who exhibit disruptive behaviors at home and in the classroom often have skill deficits related to problem-solving, social skills, and emotion regulation (Egger & Angold, 2006). Thus, a number of cognitive-behavior therapies (CBT) focus on building these skills in youth.

One commonly used, evidence-based intervention for the treatment of children with DBDs is Problem-Solving Skills Training (PSST; Kazdin et al., 1987). This cognitive-behavioral approach involves the instruction and practice of the problem-solving steps (i.e., what

is the problem, what can I do and what would happen, choosing what to do, evaluating how I did) to regulate behavior. Randomized control trials have demonstrated the effectiveness of PSST in reducing disruptive behaviors and increasing pro-social behaviors at post-treatment as well as at 1-year follow-up for children ages 2-14 with conduct problems ($n = 250$; Kazdin et al., 1987; Kazdin & Wassell, 2000).

Garland, Hawley, Brookman-Frazee, and Hurlburt (2008) reviewed three CBTs (i.e., anger coping therapy, problem-solving skills training, and Delinquency Prevention Program) that met strict criteria for the evidence-based treatment of children with DBDs between the ages of 4 and 13 years old. They compared elements of the treatments and surveyed experts to determine the core components of effective intervention. All of these interventions had the following content: (1) principles of effective limit-setting/punishment, (2) problem-solving skills, (3) anger management, (4) affect education, and (5) anticipating/training for setbacks. Furthermore, all treatments included the following methods of conveying the therapeutic content: (1) positive reinforcement of appropriate behavior, (2) punishment for inappropriate behaviors, (3) psychoeducation/didactics, (4) assigning and reviewing homework, (5) role-playing and behavioral rehearsal, (6) modeling, (7) providing materials, and (8) reviewing goals and progress. These elements are likely to be effective in the individual treatment of youth with DBDs.

Despite the evidence of effectiveness for cognitive-behavioral approaches, limitations exist when implementing these interventions with young children. A meta-analysis by McCart and colleagues (2006) examined empirical research comparing treatment options for antisocial youth and moderators of the effectiveness. Findings highlighted that although CBT had an effect on aggressive behaviors post-treatment ($ES = 0.35$) and at follow-up ($ES = 0.31$), these effects

were moderated by age. Specifically, younger children saw fewer benefits from CBT than older children and adolescents. The cognitive abilities of preschool-aged children may be too underdeveloped to meaningfully participate in these interventions. Although CBT programs may promote positive outcomes for young children, they may not be sufficient for children whose problem behaviors are severe enough to warrant a DBD diagnosis in early childhood.

School-based interventions. In addition to implementing skill-building curricula for children who exhibit disruptive behaviors, additional treatments include enhancing known protective factors while reducing risk factors. Schools typically utilize school climate intervention and prevention programs such as Social and Emotional Learning (SEL) curriculums to promote emotional and behavioral outcomes for all students (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). Moreover, since youth with disruptive behavior problems are at high risk for developing coercive cycles with teachers, various interventions focus on promoting positive adult relationships (e.g., Banking Time, TCIT; Sabol & Pianta, 2012). Lastly, school-based interventions typically include a behavior management component (Witt, VanDerHeyden, & Gilbertson, 2004).

A large number of SEL curriculums exist that promote the positive adjustment of students in schools. Durlak and colleagues (2011) conducted a meta-analysis of the outcomes for 213 school-wide SEL programs. Results indicated that these programs lead to a significant improvement in student's social and emotional skills, attitudes, and appropriate social behaviors. Furthermore, these programs improved academic outcomes for students. Schools with SEL programs can help promote the social, emotional, and academic development of young children with DBDs.

Children with functional impairment in school may need additional, more intensive interventions. These interventions typically focus on either building positive relationships with school staff and peers, or the management of disruptive behaviors. The quality of teacher relationships early in education is predictive of future academic and behavioral outcomes for children with behavior problems in school (Hamre & Pianta, 2001). Although the importance of early teacher-child relationships are widely recognized as important for the social and emotional development of young children, few interventions exist with an improvement in this relationship as a target outcome. Furthermore, the empirical support for these interventions is scant and not rigorous (Sabol & Pianta, 2011). Two interventions that foster teacher-child relations and have empirical support include Check In—Check Out (CICO; Todd, Campbell, Meyer, & Horner, 2008) and Banking Time (Driscoll & Pianta, 2010).

CICO is a widely accepted targeted intervention used in schools implementing school-wide positive behavior supports (SWPBS) that aims to improve student behaviors and build positive relationships between children and school staff. Todd and colleagues (2008) examined the impact of this intervention on the behavior of boys with behavior problems in an elementary school ($n = 4$). These boys checked in with a school staff member at the beginning of the day, received ratings and feedback on behavior throughout the day from their teachers, and checked out with the same staff member at the end of the day, and received rewards for appropriate behavior. . Visual analysis of the data for the boys indicated that reductions (average 17.5%) in the problem behaviors were functionally related to the implementation of CICO. Additional research has demonstrated the effectiveness of this intervention with elementary school students (Fairbanks, Sugai, Guardino, & Lathrop, 2007). Although evidence suggests that CICO improves student behavior, this study did not examine the impact of the intervention on the relationships

with school staff. Furthermore, research has not investigated whether CICO would be an acceptable and effective intervention for preschool-aged children.

The Banking Time intervention provides a classroom intervention specifically for preschool-aged children. It aims to improve teacher-child relationships by providing regular occasions for positive interactions. During the Banking Time sessions the child leads the play while the teacher: (a) observes the child, (b) narrates the observed actions, (c) labels the child's emotions, and (d) develop relational themes to convey support. Driscoll and Pianta (2010) examined the impact of Banking Time on teacher beliefs, teacher-child relationship quality, and child behavior in 19 Head Start classrooms. The intervention was implemented with two children in each classroom and results were compared to children in the same classroom who did not receive the intervention, as well as a no treatment control group ($n = 10$ classrooms). When compared to the within class control group, teachers reported greater improvements in the students' frustration tolerance, task orientation, and competence, as well as a reduction of child's conduct problems. When outcomes for the intervention group were compared to the no treatment group, the only significant difference was teacher perceptions of closeness to their students. No significant differences between the intervention and no treatment groups were found in teacher-reports of child behavior. The authors highlight that this study was exploratory. Non-significant findings may have been attributable to a lack of treatment fidelity or small sample size. Additionally, this study used Banking Time as a prevention program for children in Head Start classrooms. Ceiling effects may have limited the findings, in that significant changes in teacher-child relationships may not be seen with a population with typical ratings of this relationship. Targeting a sample of children at risk for poor teacher-child relationships, may lead to significant findings.

Banking Time (Driscoll & Pianta, 2010) and CICO (Todd et al., 2008) have limited evidence related improvements in both child behavior and teacher-child relationships. More research is needed to develop and demonstrate the effectiveness of interventions that reduce disruptive behaviors by improving interactions between preschool students and their teachers.

Classroom behavior management techniques provide an effective treatment option to reduce problem behaviors. A variety of strategies exist that rely on the tenets of behavior theory. In a school setting, the development of behavior interventions may occur following a functional behavioral assessment to identify the problem behaviors and confirm hypotheses related to the causes of the problem behaviors and various factors maintaining them. The team then chooses an evidence-based intervention related to the confirmed hypotheses and an implementation plan is put in place. Progress towards the student's behavior goals and the fidelity of implementation continue to be monitored. Classroom management techniques used within this process have demonstrated effectiveness in reducing problem behaviors and increasing academic engaged time (Witt et al., 2004). Evidence-based interventions implemented within this process include differential reinforcement (Simonsen, Fairbanks, Briesch, Myers, & Sugai, 2008), daily report cards (Owens et al., 2012) token economies (Bahl, McNeil, Cleavenger, Blanc, & Bennett, 2000), group contingencies (Murphy, Theodore, Aloiso, Alric-Edwards, & Hughes, 2006), and the Good Behavior Game (Kellam et al., 1994).

School-based interventions for preschoolers with DBDs often focus on both child and teacher skills. Prevention efforts in schools utilize SEL to promote the student's ability to regulate emotions and respond with appropriate behaviors (Durlak et al., 2011). Additionally, teachers commonly employ behavior management techniques to reinforce appropriate behavior and reduce problem behaviors in the classroom (Witt et al., 2004). However, the literature

related to evidence-based interventions targeted towards youth with DBDs beyond classroom management is limited. One intervention was found that aimed to improve teacher-child relationships in preschool, Banking Time (Driscoll & Pianta, 2010). This intervention, however, was not implemented with students with DBDs and its effectiveness in reducing disruptive behaviors was not evident. More research is needed to determine the efficacy of school-based interventions that focus on teacher-child relationships. In contrast to the scant evidence on school-based interventions with this emphasis, a wealth of research examines the use of parent-focused interventions.

Parent-focused interventions. Parent training is considered the first line of treatment for young children who exhibit disruptive behaviors (Comer et al., 2013; Gleason et al., 2007). Parent training programs have received extensive attention in the literature and consistently demonstrate effectiveness for promoting positive outcomes for young children with DBDs (Piquero, Farrington, Welsch, Treblay, & Jennings, 2009). These programs aim to correct coercive cycles of parent-child interactions, namely through parental instruction in positive behavior management strategies (Kazdin, 1997).

Garland and colleagues (2008) selected five parent training programs that met strict criteria for empirical support (i.e., Incredible Years, PCIT, parent management training, Oregon Social Learning Center Parent Training, Time-Out With Signal Seat, and Delinquency Prevention Program) to review for core intervention components. This review, followed by a survey of expert opinion, identified five critical components of therapeutic content common to effective parent-focused interventions. These include: (1) positive reinforcement, (2) effective limit-setting/punishment, (3) parent-child relationship building, (4) problem-solving skills, and (5) anger management. Additionally, the common mediums of treatment delivery included: (1)

psychoeducation/didactics, (2) assigning and reviewing homework, (3) role-playing/behavioral rehearsal, (4) modeling, (5) providing materials, and (6) reviewing goals and progress.

Parent training may be particularly effective for preschool-aged children (McCart & Colleagues, 2006). Although there are evidence-based child-focused interventions, preschool children may not have the level of cognitive development to benefit from CBT strategies. Additionally, not all of these children may attend preschool programs to benefit from school-based interventions. Piquero and colleagues (2009) conducted a meta-analysis of RCTs to determine the effects of early parent training programs on the outcomes of children with DBDs. Findings from 55 studies on students age five and under indicated the ES was 0.35, suggesting that parent training programs have a moderate impact on child disruptive behaviors. Furthermore, the authors identified 27 studies that found the positive effect of parent training in early childhood extended to adolescent outcomes. Specifically, early parent training resulted in fewer behavior problems in elementary school, instances of substance use, criminal activity, and arrests.

Interventions focused on parent training can improve children's behavior and parent-child relationships. However, young children with severe behavior problems may need additional interventions to support their development at school and relationships with teachers.

Ecological Interventions

Young children who display disruptive behaviors are at risk for many negative life outcomes (Bradshaw et al., 2010). The skill deficits that accompany these disorders often lead to functional impairment across multiple settings (Walker et al., 2003). Developmental psychopathology approach highlights the need to provide early, ecological interventions that address each risk factor present in a young child's environment (Cicchetti, 1984). Thus, children

who have severe and pervasive impairment should receive intervention in multiple settings to reduce impairment as well as generalize skills learned in treatment to these settings. Intervention programs including components targeting both home and school may be particularly effective (Reinke, Splett, Robeson, & Offutt, 2009). Currently, a few evidence-based program exist that seek to provide comprehensive treatment to these children, namely First Step to Success (Walker et al., 1998) and The Incredible Years (Webster-Stratton, 1984)

First Step to Success. First Step to Success is an ecological intervention that targets young children (grades K-3) at-risk for developing antisocial behavior. Three modules are included in this intervention: (1) a universal screening of early childhood students, (2) a school intervention module referred to as Contingencies for Learning Academic and Social Skills (CLASS), and (3) HomeBase, a parent-taught curriculum to build children's prosocial competencies. Students who demonstrate risk following the screening are chosen for the intervention. A trained coach implements the intervention by training the teacher, parents, peers, and target student. During CLASS, the coach trains the teacher in utilizing a token economy in which the student gains points towards an increasingly difficult behavior goal. Classroom peers are involved in the intervention through participation in group activities that are gained by the target student. Additionally, peers are taught positive strategies to support the student. The parent module, HomeBase, is implemented in concert with the CLASS module. Parents are walked through six weeks of lessons to give their children on the following skills: (1) communication and sharing, (2) cooperation, (3) limits setting, (4) problem solving, (5) making friends, and (6) developing confidence. Coaches also review behavior management strategies for parents to reinforce these skills and collaborate with the teacher's contingencies.

Multiple RCTs (Walker et al., 1998; Walker et al., 2009) have been conducted to demonstrate the effectiveness of First Step to Success. Walker and colleagues (1998) utilized a wait-list control with 46 kindergarten students and followed up 2-years after initial implementation. Results indicated that the intervention reduced aggressing and maladaptive behaviors as well as increased academic engagement and adaptive behaviors. These outcomes were maintained through first and second grade. Continued research on this intervention has supported the positive impact of this intervention with young students (e.g., Lien-Thorn & Kamps, 2005; Walker et al., 2009)

Incredible Years. Webster-Stratton and colleagues (1984) have developed another ecological intervention program, the Incredible Years that has received substantial empirical support. The Incredible Years includes trainings program for children (ages 2-8) with challenging behaviors, their parents, and their teachers. Furthermore, portions of this program can be used as an intensive intervention with a single student or as a universal prevention with an entire class. Three parent training programs comprise the parent series. The core of the treatment is the BASIC parent program, which teaches behavior management strategies, ways to play with children, and methods of promoting children's cognitive and academic development. A program for building parent's own interpersonal skills (ADVANCE), and one emphasizing parental involvement in school (SCHOOL) can also be included. The teacher component of the Incredible Years includes a training that covers classroom behavior management, proactive teaching and instructional strategies, and content on the importance of developing positive relationships with children and their parents. In addition to this training program, teachers can also be coached to deliver the Dinosaur Curriculum, a social skills and problem solving curriculum for an entire class. The authors suggest that the BASIC parent program is the core of

the Incredible Years. Additional programs should be included depending on the needs of the student.

The parenting program has a multiple RCTs indicating the effectiveness of this intervention as a treatment for children with DBDs. This research demonstrated that the Incredible Years improves parent-child interactions, parenting skills, children's conduct problems, and children's prosocial skills (Webster-Stratton, 1984; Webster-Stratton, Reid, & Hammond, 2001). Children who received the Dinosaur Curriculum also demonstrated improvements in problem-solving, prosocial, and play skills (Webster-Stratton & Hammond, 1997). Research on the teacher component of the Incredible Years indicates that this treatment improves teachers' management skills, teacher-child interactions, and students' behavior (Webster-Stratton, Reid, & Hammond, 2004).

Several studies have specifically examined the outcomes related with combined parent, child, and teacher programs. Data was collected for 159 children (ages 4-8 years old) who were randomly assigned to parent training, parent and teacher training, child training, child and parent training, all three programs, or a wait-list control. All of the treatment options demonstrated a greater effect on child disruptive behaviors at school than the control group. The addition of teacher training, however, led to more improvement than parent training alone (PT: $ES = .35$; PT + TT: $ES = .41$; PT + TT + CT: $ES = .46$; Webster-Stratton & Hammond, 1997). At a 2-year follow-up the majority of children who received the teacher training program continued to show clinically significant improvement in classroom behavior. Furthermore, the combined parent and teacher training group had significantly better child behavior outcomes than the other treatment combinations (Reid, Webster-Stratton, & Hammond, 2003). The results from these studies suggest that combining parent and teacher interventions lead to enhanced short-term and long-

term outcomes for young children with DBDs. Thus, the authors recommend an approach targeting both parents and teachers as the first line of treatment for students with pervasive impairment (Reid et al., 2003; Webster-Stratton & Hammond, 1997). However, research on intervention programs for preschoolers that include both home and school elements is limited to the Incredible Years. Thus, research is needed to determine the effectiveness of adapting evidence-based parent interventions to include a school component.

Interaction Therapy

Parent-Child Interaction Therapy (PCIT; Eyberg & Funderburk, 2011) is an effective treatment options for young children with clinically significant disruptive behaviors. This intervention is particularly appealing since it focuses not only on reducing coercive cycles between the adult-child dyads by promoting a secure, nurturing relationship, but also on training the adult in effective, positive behavior management techniques. PCIT has a strong evidence-base as an intervention for this population (Nixon, 2001; Schuhmann et al., 2008) and is considered an empirically supported treatment (EST; Chambless & Ollendick, 2001). However, research has not examined adding a similar, school-based component to provide ecological services to students.

Evidence on an adaptation of PCIT, Teacher Child Interaction Training (TCIT) is emerging. The findings thus far suggest that it results in improvements in teacher classroom management skills. However, TCIT currently exists as a universal prevention, as opposed to an extension of PCIT. This section outlines the literature relevant to each interaction therapy and their demonstrated effectiveness.

PCIT. PCIT is a well-established intervention that aids families of young children ages 2-7 who display disruptive behaviors (Eyberg & Funderburk, 2011; Nixon, 2001). It aims to

reduce a child's challenging behaviors by improving parent-child interactions and parenting practices. PCIT has a strong conceptual and empirical basis as a treatment for children with disruptive behavior disorders. This therapy improves children's behavioral health by using in-vivo coaching, parent modeling, ignoring of inappropriate behaviors, and praise of appropriate behaviors (Eyberg & Funderburk, 2011). The live coaching of parenting behaviors differentiates PCIT from other parent training programs (Shanley & Niec, 2010). Research indicates that PCIT reduces disruptive behavior in children, improves parenting practices, reduces parental distress, improves parental self-efficacy both immediately following treatment (Schuhmann et al., 1998) and up to 6 years following treatment (Hood & Eyberg, 2003).

Theoretical framework. PCIT incorporates the underpinnings of multiple theoretical frameworks regarding parent-child relationships. This intervention is divided into two components, child-directed interaction (CDI) and parent-directed interaction (PDI). CDI stems from Ainsworth's (1989) work regarding secure attachment as well as Patterson's (1982) theory of coercive family process. PDI reflects typical behavioral parent training, drawing from multiple tenets of behavior theory (Herschell, Calzada, Eyberg, & McNeil, 2002).

Ainsworth's (1989) seminal work on attachment theory demonstrated the importance of parent interaction styles early in childhood. In infancy, children develop different types of attachment to their caregiver depending on the parent's responsiveness. Parents who are sensitive to their child's needs and respond with great warmth create secure attachments. When a child's needs are being consistently met, healthy behavioral, emotional and social development occurs (Ainsworth, Blehar, Waters, & Wall, 1978). Conversely, children who are met with harsh parenting styles often develop insecure attachments and have diminished emotional regulation. Insecure attachments are more common among preschool-aged children who present with

behavior problems than typically developing children (Greenberg, Speltz, & DeKlyen, 1993). CDI aims to promote a secure attachment between the parent and the child. Parents learn skills to create a nurturing environment in which children feel accepted using PRIDE skills (i.e., praise, reflection, imitation, behavior descriptions, and enthusiasm). Furthermore, Patterson's (1982) theory of coercive family processes, as described previously, posits that parent and child behaviors escalate and become negatively reinforced. This creates harsh interaction styles. CDI skills introduce pleasant interactions to not only build a secure attachment, but also to counteract coercive cycles that may characterize these relationships. The predictable pattern of positive interactions is bolstered through the consistent use of behavior theory principles that parents use to respond calmly to children's misbehavior.

During both phases of PCIT, parents learn to respond to minor misbehaviors with differential reinforcement. Differential reinforcement is a behavior principle that reinforces appropriate behavior while reducing negative behaviors. Parents stop their use of PRIDE skills and remove all attention from the child once he begins to misbehave, a strategy called planned ignoring. Although this includes a form of punishment aimed at reducing the inappropriate behavior, planned ignoring is considered a superior response to mild behavior than more harsh forms of punishment (e.g., yelling, spanking) since the parent remains calm and an aversive stimulus is not introduced. Furthermore, planned ignoring only lasts as long as the misbehavior is present. Once the child exhibits an appropriate behavior, the parent not only attends to the child, but reinforces the appropriate behavior with the PRIDE skills. Parents are also coached to shape behaviors they want to see in their children. If a child has not developed the appropriate replacement behavior, the parent uses differential reinforcement for approximations of the appropriate behavior until the child acquires the skill.

The focus of CDI is to establish a nurturing relationship between the parent and child, therefore commands and questions are avoided to prevent the need to follow-through after non-compliance. After the establishment of a positive interaction style, parents learn behavior management strategies to respond to more severe problem behaviors, such as noncompliance and rule-breaking. The therapist teaches the parent-child dyad a graduated time-out procedure that includes stimulus control and over-correction. Stimulus control consists of introducing a stimulus associated with a consequence to elicit a certain behavior. Parents issue a verbal warning as the first step of the time-out procedure that becomes associated with time out. As the child learns to comply with parent requests, this prompt serves as a conditioned stimulus. If compliance with the original command does not follow the prompt, a time-out procedure begins. Time out is an effective behavior strategy that includes the removal of all potential forms of reinforcement in an environment. The child must remain in a place or position (i.e., a large chair) for a prescribed amount of time without any access to attention, tangible items, or sensory stimulation. Similar to planned ignoring, this strategy of removing all potential reinforcers is seen as superior to the presentation of an aversive stimulus and can prevent the parent's and child's behavior from escalating. After the child successfully remains in time-out, overcorrection for compliance is used. Overcorrection is the repetition of an appropriate behavior as a method of increasing future instances of that behavior over the problem behavior. The parent must ensure that the child not only complies with the original request, but also must follow a second command before the termination of the time-out procedure. Once the child complies with the second command, the parent provides praise, attention, and uses the PRIDE skills to reinforce the compliance.

Parent behavior also changes as a result of behavior theory principles. The therapist coaching the parent utilizes positive reinforcement, positive punishment, shaping, and over-correction. When a parent uses a PCIT skill, the therapist provides attention and an encouraging statement. Conversely, if a parent does not comply with an instruction from the therapist (e.g., does not use a PRIDE skill when prompted), the therapist repeats the direction until the parent complies. Lastly, if a parent struggles to master a skill, shaping and over-correction are used. Shaping is used often at the beginning of treatment. The therapist provides praise for approximations of the various skills until the parent develops the skill. Once it is clear that the parent can perform the skill, the therapist will prompt the parent to repetitively use the skill until he or she has mastered it.

Intervention components. PCIT comprises two phases, CDI and PDI, which focus on a specific skill set to improve interactions between the dyad. PCIT is a data-driven therapy. The family's progression through the phases depends on their progress towards specific goals. Thus, prior to the beginning of each session, parents complete a measure of the intensity of the child's problem behaviors and their stress. Additionally, observational data on the parent's skills are collected throughout the sessions.

During CDI, parents are taught to use PRIDE skills to foster a secure and nurturing relationship with their child, improve communication, and increase the child's self-esteem. PRIDE skills include, praising appropriate behavior, reflecting appropriate talk, imitating appropriate play, describing appropriate behavior, and being enthusiastic. The child is not present for the first session, called CDI Teach. The therapist first spends this session reviewing PCIT, the structure of the sessions and providing an overview of CDI. Second, the therapist instructs the parents in the skills that they will be using (i.e., PRIDE skills), and to avoid the use

of commands, questions, and criticisms. These are discouraged during CDI to yield a nurturing, accepting environment as well as avoiding any potential non-compliance. Next, parents are taught to use differential reinforcement in response to any misbehavior as long as it is not aggressive or destructive. Aggressive and destructive behaviors that cannot be ignored result in the parent ending CDI. Once the didactic content is complete and the therapist clarifies any questions the parent may have, the parent and therapist role-play the CDI skills. Lastly, the parent is instructed to use the CDI skills at home, also called special play. Special play lasts for five minutes and is meant to extend the relationship-building component of PCIT beyond the weekly clinic session and provide parents more practice with the CDI skills. It continues throughout the entire therapy process to maintain the positive interactions between parent and child.

Following the CDI Teach session, the parents begin CDI Coach sessions. During CDI Coach, the therapist stands behind a one-way mirror to observe the dyad and provides in-vivo feedback to the parent through a bug in the ear device.. Coach sessions start with a short discussion of progress or concerns from the past week and a review of that week's homework (i.e., special play). Once the session is set up, the therapist codes the parent's CDI skills for five minutes without giving any feedback to assess his or her progress. At the end of coding, the therapist provides brief feedback and highlights skills that the parent should focus on. The therapist then begins to coach the parent on using the CDI skills for approximately 30 minutes. At the end of the session, the therapist shows the parent his or her data and progress towards the goals. CDI coach sessions continue until the parent meets the mastery criteria (i.e., 10 behavior descriptions, 10 reflections, 10 labeled praises and no more than 3 questions, commands, and criticisms during the 5-minute coding).

Similar to CDI, PDI begins with a Teach session. After an overview of the structure of this portion of the therapy, parents learn the guidelines for giving effective commands. Additionally, the therapist instructs parents in responding with praise following compliance and the time-out procedure to follow in response to non-compliance. Parents continue to practice special play at home, but wait to implement time-out at home until they have mastered it in the clinic.

At the first PDI Coach session, the time-out procedure is explained in a developmentally appropriate way to the child. All of the PDI Coach sessions then begin with the five-minute coding of CDI skills, followed by a few minutes of special play to make sure that the dyad is playing comfortably. The parent then tells the child that they get to choose what to play now, and it is time for the child to practice listening. The therapist then coaches the parent in the use of effective commands and following through with both compliance and non-compliance. Parents continue to use CDI skills in between commands. Coaching lasts approximately 30 minutes or until the child has successfully obeyed the last command. As the parent progresses through PDI, they are given additional homework assignments. Specifically, parents learn how to do time-out in the home, do time-out in public, and set house rules.

Families can graduate from PCIT after they meet four criteria: (1) CDI skills mastery, (2) PDI skills mastery (i.e., parents give at least 75% of commands effectively and appropriately follow-through with 75% of direct commands), (3) sub-clinical ratings of child's problem behaviors, and (4) parents feel confident in managing their child's behavior.

Efficacy research. A wealth of efficacy research has been conducted in support of the use of PCIT as a treatment for children age 2-7 with challenging externalizing behaviors. Additionally, PCIT has been identified as an EST (Chambless & Ollendick, 2001). Research

indicates that PCIT increases the presence of positive behaviors, reduces disruptive behaviors, improves the interactions between parents and child, and promotes positive parenting strategies (Nixon et al., 2003; Schuhmann et al, 1998; Thomas & Zimmer-Gembeck, 2007).

In a review of various task forces and other reviews of effective interventions, Chambless and Ollendick (2001) determined three categories of evidence to support the effectiveness of various interventions. The evidence supporting PCIT fell in category II, which included interventions supported by at least one, rigorous RCT and a number of additional supporting studies (e.g., single-case design, pre-post comparisons) from various research groups. Thus, PCIT is considered a probably efficacious treatment.

Schuhmann and colleagues (1998) conducted a randomized, waitlist control trial to examine the effectiveness of PCIT for preschool children with disruptive behavior problems. Sixty-four parent-child dyads of children ages 3-6 years old were referred for treatment of conduct problems related to an ODD diagnosis. Families were randomly assigned to either immediate treatment group ($n = 37$) or the wait list group ($n = 27$). Results indicated that the treatment group, when compared to the wait-list group, evidenced significantly more positive parent-child interaction skills, lower levels of parenting stress, a more internal locus of control, fewer child behavior problems as rated by parents, and higher rates of compliance with parent commands. These treatment gains were maintained at a four-month follow-up.

A separate team of investigators, Nixon and colleagues (2003), examined the effectiveness of PCIT to a wait list group and a modified, abbreviated PCIT. This abbreviated model included videotaped teach sessions, five in-person coaching sessions, and five over the phone consultations. A sample of 54 families with children who had an ODD diagnosis (ages 3-5) were randomly assigned to the three conditions. The children from both the standard and

abbreviated versions of PCIT demonstrated significantly improved behaviors, parenting practices, and mother self-esteem and confidence, when compared to the wait-list control group. The standard PCIT treatment demonstrated superior effects to the abbreviated version at the immediate completion of treatment, but no difference was seen between the two treatment groups at the six-month follow-up.

Multiple reviews of the various trials and case studies related to the use of PCIT with young children who display disruptive behaviors conclude that PCIT both improves parents' skills and reduces problem behaviors (Eyberg, Nelson, & Boggs, 2008; Nixon, 2002; Webster-Stratton & Taylor, 2001). Thomas and Zimmer-Gembeck (2007) expanded on these reviews by conducting a meta-analysis on the efficacy research on PCIT. Thirteen studies from 1980-2004 conducted by multiple research groups were included. The results demonstrated medium to large effect sizes for outcomes related to both child and parent behavior. Parent report (ES = -1.31) and clinical observation (ES = -0.54) of disruptive behaviors indicated large effects when comparing pre- and post-treatment levels of problem behaviors. A large effect size (ES = 0.97) was found for an increase in positive behaviors. These effect sizes diminished at follow-up (varying from 4 months to 1 year), but still ranged from medium to large (parent report: ES = -1.10; clinic observation: ES = -0.43; clinic observation of positive behaviors: ES = 0.30). When compared to a waitlist control, parent report of disruptive behaviors were reduced (ES = -1.45) and clinic observations of positive behaviors increased (0.61). However, only a small effect size (ES = -0.11) was found with clinic observations of problem behaviors. Results also demonstrated large effects on positive parenting behaviors (e.g., labeled praise, direct commands) as measured by clinic observation in pre- to post-treatment trials (ES = 1.15) and

RCTs ($ES = 3.66$). These findings indicate that PCIT is a well-established intervention for improving both child and parent behaviors of families with children who have a DBD.

PCIT has also demonstrated effectiveness for treating preschool children who display disruptive behaviors with comorbid conditions or exposed to various risk factors. Bagner and Eyberg (2007) demonstrated the effectiveness of PCIT for children ages 3 through 6 with comorbid intellectual disabilities and ODD through an RCT ($n = 30$). Emerging literature suggests that PCIT may reduce hyperactivity, impulsivity, and aggressive behaviors in preschool-aged children with ADHD (Matos, Bauermeister, & Bernal, 2009). PCIT has also been studied as a therapy for children who have experienced physical abuse (Chaffin et al., 2010). Some empirical support also exists for the use of PCIT with children with an autism spectrum disorder who display disruptive behaviors (Agazzi, Tan, & Tan, 2013; Armstrong & Kimonis, 2013; Soloman et al., 2008).

Generalization of PCIT to the classroom. Given the positive behavior outcomes of PCIT on disruptive behavior in the home, researchers have investigated whether these effects generalize to the classroom. Although studies have determined that some behavior problems in school are reduced through PCIT, the literature is not conclusive (Bagner, Boggs, & Eyberg, 2010; Funderburk, 1998; McNeil, Eyberg, Eisenstadt, Newcomb, Funderburk, 1991;).

McNeil and colleagues (1991) investigated improvements in disruptive behaviors at home and in school following PCIT. A treatment group ($n = 10$) was compared to two control groups, one of typical peers ($n = 9$) and one of untreated children with deviant behaviors ($n = 8$). The rate of improvement for classroom observational measures of behaviors (i.e., percent of intervals of appropriate behavior, compliance, and on-task behavior) was significantly higher for the treatment group than for either control group. However, this greater improvement would be

expected since neither control group was receiving treatment. Furthermore, the pre-treatment rates of these behaviors were significantly lower for the treatment group than either control group. This implies that the control groups could be susceptible to ceiling effects, and thus not be able to demonstrate large improvements in observed behaviors. Nevertheless, the results suggest some improvement since the rate of observed positive behaviors for the intervention group were within the normal range. Rates of improvement for conduct problems and problem behaviors were also significantly greater for the treatment group than either the deviant or normal comparisons. Similar to the classroom observations, however, the treatment groups' pre-treatment ratings were more severe than either control group. The post-treatment ratings on for classroom disruptive behaviors were sub-clinical for all three groups. In fact, the deviant control group without treatment had lower ratings of problem behaviors than the treatment group. Furthermore, although both deviant groups' ratings were subclinical at post-treatment, they were significantly higher than the normal control group.

These findings from McNeil and colleagues (1991) suggest that some benefits of PCIT generalize to the classroom. Specifically, significant increases in observations of appropriate behaviors and decreases in disruptive behaviors resulted from the implementation of PCIT. In this study, the rates of observed appropriate behaviors reached a normal level. However, the group of peers who displayed disruptive behaviors but did not receive treatment also saw improvements and reached the same, non-clinical post-treatment levels of behavior. Moreover, the post-treatment levels of disruptive behaviors for both deviant groups, although subclinical, were higher than the normal control. This suggests that these improvements may have been due to maturation or typical development over time spent in a classroom. Furthermore, PCIT may have more of an impact on the presence of positive behaviors than the reduction of disruptive

behaviors. This assumption may also be related to issues of measurement. Due to the low incidence nature of some disruptive behaviors (e.g., aggression), teacher ratings of conduct problems may be more reflective of impairment than classroom observations of appropriate behaviors. In sum, PCIT appears to have positive impact of classroom behaviors; however, these benefits may not be enough to eliminate disruptive behaviors and their resulting functional impairment in the classroom.

Research also suggests that the positive impact of PCIT on classroom behavior may not be permanent. A subsequent study was conducted to determine if improvements in classroom behavior were maintained (Funderburk, 1998). Twelve male children (ages 2-7) participated in PCIT. Teacher ratings of their problem behaviors, hyperactivity, conduct problems, and inattention were compared to average peers and peers with high ratings of problem behaviors. At the end of PCIT, the treatment group demonstrated reductions in problem behaviors and conduct problems. Furthermore, these ratings were comparable to the average classroom peers and significantly lower than the high problems control group. Despite these promising results, these effects were not maintained. At the 12- and 18-month follow ups, teacher ratings of conduct problems were the only outcome that remained in the normal range. The remaining outcomes for these children returned to or exceeded the levels seen prior to PCIT implementation. These findings suggest that, despite the immediate generalization of effects of PCIT to some disruptive classroom behaviors, these results may not be maintained 12 – 18 months afterwards.

Pre- and post-treatment effects of PCIT on three classroom behaviors, (i.e., off-task behavior, inappropriate behavior, and noncompliant behavior) were assessed as a measure of treatment sensitivity using the Revised Edition of the School Observation Coding System

(REDSOCS) with 34 children ages 3 to 6 years old (Bagner, Boggs, & Eyberg, 2010). Findings from the REDSOCS demonstrated a decrease in inappropriate behaviors in the classroom (26% to 18%). Additionally, significant changes were seen in off-task behavior (31% to 23%). However, no significant changes were seen in noncompliant behavior (20% to 19%).

Given the scant amount of literature and mixed findings on the impact on various classroom behaviors, it is unclear whether PCIT generalizes to the school setting. It appears that this clinical intervention may lead to some improved outcomes in school (Bagner, Boggs, & Eyberg, 2010; McNeil et al., 1991). However, for children who have severe impairment in school, a family focused treatment may not be sufficient or long-lasting (Funderburk et al., 1998). Lastly, PCIT may not influence other important outcomes such as teacher skills and teacher-child relationships.

Teacher Child Interaction Therapy. Since PCIT is an established treatment for children with disruptive behavior disorders at home, research has been conducted on a school-based variant of PCIT, Teacher-Child Interaction Training (TCIT). TCIT aims to help build teacher behavior management skills for students needing intensive interventions for disruptive behavior at school. This intervention expands upon traditional classroom management interventions by including a relationship-building component, CDI. Thus, TCIT improves teacher-child interactions by promoting a nurturing relationship as well as consistent responses to appropriate and inappropriate behavior. The following sections will outline the theoretical framework underlying TCIT, models currently present in the literature, research related to the outcomes associated with TCIT, and limitations of the existing models.

Theoretical framework. TCIT rests upon the same theoretical underpinnings to elicit behavior change as PCIT. Since TCIT utilizes the same intervention components, a child-led

interaction period followed by adult-led interactions, the theory of change is simply adapted to classroom dynamics.

As discussed previously, coercive cycles that characterize the family relationships of young child with externalizing behavior problems (Patterson, 1982) can also develop in the classroom. Much like parent-child relationships, the attachment between a teacher and child can be characterized as secure or insecure (Pianta, Steinberg, & Rollins, 1997). Secure attachments with teachers provide a resource for young children and a model of interpersonal functioning. However, insecure attachments lead to an exacerbation of the diminished social and emotional development. Insecure teacher-child relationships can be characterized by conflict that further damages the relationship (Howes, Phillipsen, & Peisner-Feinber, 2000) resulting in a punishment paradigm (Maag, 2001). Poor teacher-student relationships can lead to both negative short-term outcomes, such as reduced academic engaged time (Walker et al., 2003) and expulsion (Gilliam & Shahar, 2006) and long-term negative outcomes such as dropping out of high school (Bradshaw et al., 2010; Hamre & Pianta, 2001).

TCIT aims to repair the attachment between the teacher and child by providing opportunities for positive interactions. Similar to PCIT, the intervention begins with CDI, where the teacher uses the PRIDE skills to create a nurturing relationship with the child. Furthermore, once the teacher masters these relationship-building skills, the intervention progresses to a behavior management component that parallels PDI, teacher-directed interaction (TDI). TDI incorporates the same behavioral principles as PDI, namely differential reinforcement and time-out. The various models of TCIT adapt these principles to the classroom environment (Fernandez et al., 2014).

Existing models and their effectiveness. No formalized manual of TCIT presently exists. Rather, 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 term the intervention Teacher-Child Interaction Training. Thus, the following section separates the models into those classified and Teacher-Child Interaction Therapy and Teacher-Child Interaction Training.

Teacher-Child Interaction Therapy. TCIT emerged in the literature though a case study. McIntosh and colleagues (2000) presented a case study of the use of TCIT with a two year old girl and her preschool teacher. Prior to implementation, the therapist met with the teacher to review the treatment and identify the student's disruptive behaviors, biting and aggression. Following baseline data collection on the teacher and student behaviors, the teacher participated in a CDI teach session where she was instructed on the do and don't skills of CDI. Five, twenty-minute, CDI sessions took place in a small room outside of the classroom. These were followed by a TDI Teach session. As in PDI, the teacher was instructed in giving effective commands and how to consistently respond to appropriate and inappropriate behaviors. A graduated time-out procedure paralleling that used in PCIT was also taught to the teacher. However, since there was not access to a time-out room, if the student got out of the time-out chair she was moved to a holding chair and held by the teacher in the chair for one minute. Seven total TDI sessions took place, five outside of the classroom and two final sessions inside the classroom. Furthermore, the teacher implemented "special time" with the student. Special time lasted 5 minutes during CDI and 10 minutes during TDI to provide daily practice of the corresponding skills.

Examination of the data suggested that TCIT had an effect on teacher and student behavior. Specifically, the teacher improved in both CDI and TDI skills. She increased the amount of PRIDE skills used with the target student and greatly reduced the number of questions and commands. Furthermore, the target student improved her rate of compliance and demonstrated a decrease in aggression; however a decline in biting was not seen. These findings indicate that TCIT may be a promising intensive intervention for young children with DBDs. However, this study has methodological limitations. Specifically, since it was a case study, the small sample size ($n = 1$) prevents the generalization of the findings to any specific population. Furthermore, the data collection design only included two phases with only one baseline data point. Thus, although conceptually it appears that the behavior changes resulted from the intervention, little confidence can be placed in this assertion, as there are a number of threats to the validity of this conclusion.

Universal prevention models. TCIT was adapted for use with an entire Head Start classroom by Tiano and McNeil (2006). This model focused mainly on the behavior management components of PCIT. First, teachers and teaching assistants from four Head Start classrooms attended a two hour training in classroom behavior management techniques similar to those used during CDI, namely differential reinforcement, redirection, and praise. This training included both didactic content as well as role-playing. Much like CDI, teachers were instructed to ignore minor inappropriate behaviors; however, this component was adapted to include a hand signal so that the student as well as his peers would know that an inappropriate behavior was being ignored. In contrast to CDI, this model of TCIT did not include a child-directed play intervals or limiting the use of questions and commands. Teachers then received live, over-the-shoulder coaching as they practiced implementing these behavior management strategies with an

increasing number of children. Once all of the teachers met the mastery criteria, a second training took place to instruct teachers in disciplinary strategies. Teachers were instructed in giving effective commands, much like in TDI. They also received training in using “when-then” statements (i.e., when the class is quiet, then we can go to recess) to encourage compliance for multiple students or when a full time-out procedure was not possible. Furthermore, a graduated time-out procedure was collaboratively created with the interventionists and administrations. The time-out chair was instead called the “thinking chair.” In place of a time-out room, a second thinking chair was placed in the hallway. If children did not follow the hallway thinking chair rules, their parents were contacted. This procedure was taught to students in the class with the most severe behavior problems.

Tiano and McNeil (2006) compared the outcomes of four Head Start classrooms (4 teachers and 16 children) implementing this model of TCIT to four control classrooms that received no treatment (4 teachers and 16 children). Teacher skills, teacher ratings of class manageability, frequency of time-out, and student behavior were measured. Observations of student behavior improved in both the treatment and control groups from pre- to post-treatment. Additionally, significant differences were not found in the groups’ ratings of class manageability. However, given that this intervention was implemented as a universal prevention, the severity of problem behaviors was low at the beginning of treatment. Therefore, these insignificant findings could be due to ceiling effects. Significant improvements were seen in teacher skills. Teacher who underwent TCIT used more labeled praises and positive behavior strategies as well as fewer criticisms. Interestingly, they also used time-out significantly fewer times than the control group. This suggests that, following TCIT, teachers incorporated more positive behavior strategies and

resorted to more intrusive techniques less frequently. These findings contribute more support for the adaptation of PCIT skills to the school setting.

Lyon and colleagues (2009; Gershenson, Lyon, & Budd, 2010) also adapted PCIT to be used in the classroom. This group had begun operating PCIT out of a religiously affiliated preschool that served low SES families to make the intervention more accessible to low-income families. A collaboration with this preschool came about to train the teachers in these behavior management strategies that were effective with a number of the students attending the school. The intervention was termed Teacher-Child Interaction *Training* to reflect the professional development aspect. Five core elements of PCIT provided the basis for TCIT: (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) weekly homework sessions, and (5) the use of standardized measures to collect data. However, a number of adaptations were also made. Adaptations similar to Tiano and McNeil (2006) include: (1) teach sessions were conducted in a group format using didactic and role-playing techniques, (2) the focus was on universal prevention and used with multiple children as opposed to a targeted intervention for a single student, (3) coaching was provided in the room via an over-the-shoulder technique, (4) the standard CDI/PDI skills were altered, and (5) the time-out procedure was designed collaboratively. The specific changes to the teacher skills and time-out procedure differed from Tiano and McNeil's (2006) adaptations. Lyon and colleague's (2009) TCIT model promoted the use of PRIDE skills and avoidance of criticism, but did not discourage the use of questions or indirect commands. Additionally, teachers were taught to use praising other students, physical cues and guidance, as well as removal of privileges in response to misbehavior. The collaborative time-out procedure was termed "Sit & Watch" (See Table 6 for a

full description). Two additional adaptations included, using a time-limited rather than mastery-based approach and providing weekly written feedback to teachers in addition to live coaching.

Observational data was collected on teacher skills ($n = 12$) throughout implementation. A multiple-baseline design with weekly assessment of teacher behavior demonstrated that 10 of the teachers demonstrated improvement in PRIDE skills as a function of the intervention. Teachers also demonstrated proficiency with the Sit & Watch procedure during the TDI coaching sessions. Data were also collected on the acceptability of TCIT. Teachers reported high satisfaction ratings with the intervention and believed the skills were useful. Data was not collected on student outcomes. This study adds to the literature supporting the use of TCIT principles to effect change in teachers' classroom management styles (Lyon et al., 2009).

Fernandez and colleagues (2014) have proposed another model of TCIT, however efficacy research has yet to be published. This model provides teachers with individual training in TCIT as a group classroom prevention program. Contrasting with past models, coaching sessions occur twice per week and are implemented inside of the classroom. A mastery criteria is used to determine the teachers' progression through the intervention, but criteria only applied to the PRIDE skills since avoiding questions and commands could prove difficult in the classroom. Behavior techniques taught in this model of TCIT include: (1) positive consequences and use of PRIDE skills in response to appropriate behavior, (2) differential reinforcement, including attending to the appropriate behavior of other students, (3) removal of privileges for non-compliance, particular loss of free time, and (4) graduated time-out procedure referred to a "Try Again" chair. If a child gets out of the Try Again chair, the teacher to either point to or physically guides the child back to the chair.

Limitations of the current models. Various models of TCIT exist in the literature; however, they all incorporate two intervention phases, CDI and TDI, to promote a secure teacher-child relationship and emphasize consistent behavior management. The models differ in the setting (i.e., in or out of classroom), type of feedback and coaching, and graduation criteria (i.e., time-limited, performance-based). Additionally, they have variable emphasis on the CDI skills; most models focus mostly on the behavior management strategies central to TDI. Despite disparities among the models, the evidence presented thus far in the literature suggests that TCIT is a promising treatment for improving teacher-child interactions and child disruptive classroom behaviors (Lyon, 2009; Tiano & McNeil, 2006).

Currently, two studies indicate that TCIT is a promising professional development tool to improve teacher skills (Lyon, 2009; Tiano & McNeil, 2006). However, the impact of this prevention on child behavior is not evident. Moreover, only one case study with a single subject examined the use of TCIT as a targeted intervention for students with disruptive behavior disorders. Findings from this study suggest that TCIT could be an effective intensive treatment, however the design had major limitations (McIntosh et al., 2000). Further research on the use of TCIT targeted towards individual at-risk students is needed. Additionally, no studies have incorporated the use of PCIT and TCIT as a comprehensive intervention. Parent training interventions are considered the first line of treatment for preschool children with DBDs (Gleason, et al., 2007), and PCIT is a particularly appealing and effective intervention for this population (Thomas & Zimmer-Gembeck, 2007). The combination of parent and teacher interventions has demonstrated improved outcomes than parent training alone in other intervention programs (Reid et al., 2003; Webster-Stratton & Hammond, 1997). Thus, research is

needed to determine if incorporating PCIT and a model of TCIT targeting a single student would provide a viable and effective intervention program.

Conclusion

DBDs constitute a class of behavior disorders that impact up to 16% of preschool-aged children (Egger & Angold, 2006). Youth with early-onset DBDs have particularly grim developmental trajectories (NICHD Network ECCR, 2004). Given this prognosis, early intervention and prevention efforts are particularly important, specifically before patterns of disruptive behaviors, coercive interaction cycles, and deviant peer group become entrenched (Tremblay, 2006). Various psychopharmacological and psychotherapeutic treatments have been examined in the literature, with parent management training considered the first line of treatment for young children with DBDs (Comer et al., 2013). However, parent training alone may not be sufficient for children with impairment in school as well as at home (Funderburk, 1998; McNeil et al., 1991). Interventions that target both environments have demonstrated effectiveness for improving disruptive behaviors across settings (Reid et al., 2003; Walker et al., 2009; Webster-Stratton & Hammond, 1997).

PCIT is a parent training intervention with a strong conceptual and empirical basis (Eyberg & Funderburk, 2011). Given the effectiveness of PCIT as an evidence-based, targeted intervention for home disruptive behaviors, research should investigate whether the addition of a teacher training component would promote more effective behavior gains. A classroom adaptation of PCIT, TCIT, is emerging in the literature as a universal prevention program targeted towards groups of teachers to provide professional development for classroom management (Lyon et al., 2009; Tiano & McNeil, 2006). However, TCIT could potentially be an effective, intensive intervention to use in concert with PCIT for preschool-aged children who

exhibit clinical levels of disruptive behaviors both at home and school. Thus, future research on TCIT should determine its effectiveness as a targeted intervention for an individual student with disruptive classroom behaviors, as opposed to a universal prevention, and when used with students who have received PCIT as a way to generalize the effects of PCIT to the classroom, Additionally, research on the acceptability and implementation of this type of intervention is warranted.

Chapter Three:

Research Methods

This chapter outlines the research methods of the current study. First, the participants are described, including the recruitment procedures and inclusion and exclusion criteria. The implemented model of Teacher-Child Interaction Therapy (TCIT) is delineated. Measures to assess the variables of interest are described, followed by the data collection procedures. Lastly, the data analysis procedures are reviewed.

Participants

Two participant triads were included in this study. Both triads included male, kindergarten students, their mothers, and their primary kindergarten teachers. Triads were recruited from a pool of children from the Parent Child Interaction Therapy (PCIT) clinic at the University of South Florida. Approval was obtained for this study by the USF Institutional Review Board as well as the ethics committee for the school district that the student participants attended.

Participants were recruited from families who completed Parent Child Interaction Therapy (PCIT) at the Child Development Clinic at the Department of Pediatrics at the University of South Florida (USF) College of Medicine. Demographic data for the children treated with PCIT at the Child Development Clinic within a six month period are included in Table 1. Families are referred to this clinic for evaluations and intervention related to developmental and behavioral concerns by pediatricians and other community providers.

Psychologists determine the appropriate diagnosis and intensity of treatment matched to the child's needs. Children who exhibit severe disruptive behaviors are treated through evidence-based psychotherapeutic techniques, including PCIT.

Table 1

Child Demographic Data for Children who Participated in PCIT at the Child Development Clinic from October 2015 – May 2016

Variable	Number (n = 35)
Gender	
Male	21
Female	14
Age	
4	3
5	6
6	9
7	8
8	6
10	3
Primary Diagnosis	
Oppositional Defiant Disorder/Disruptive Behavior Disorder	13
Attention-Deficit/Hyperactivity Disorder	17
Autism Spectrum Disorder	3
Adjustment Reaction Disorder	2

Reviews of the families who participated in PCIT in the past eighteen months took place to screen for potential participants. Additionally, families who were participating in PCIT at the time of recruitment, but were set to complete therapy before the designated start of data collection, were also recruited. If the preliminary criteria were met, the family was contacted by phone to determine interest in participating in the study. Students recruited for participation were screened for the following inclusion/exclusion criteria:

- Children must have successfully completed PCIT within the past 18 months, or had an anticipated PCIT graduation date prior to the designated start date of data collection.

- To ensure functional impairment, student participants must have exhibited clinically significant or borderline levels of disruptive behavior prior to starting treatment as rated by their teachers (i.e., ratings above 60 on Externalizing Problems scale on the Teacher Report Form [TRF]; Achenbach & Rescorla, 2000).
- Because clinical disruptive behaviors are highly comorbid with attention deficit hyperactivity disorder (ADHD), children with a comorbid diagnosis of ADHD were included in this study so that recruitment opportunities were not limited. However, children with any co-morbid conditions that would exclude their typical participation in the therapy were excluded. Excluded co-morbid disorders include, but are not limited to, mood disorders or neurological disorders. Children with Autism Spectrum Disorder were included.
- Considering that this intervention occurs in a classroom, children must have been enrolled in school full time at the start of the study. Various types of preschool and early childhood programs were acceptable (e.g., Public school, private school, Head Start, public preschool, private preschool). However, unstructured programs, such as daycare, were not acceptable.
- To avoid contamination, all child participants must be enrolled in separate classrooms. This was determined by confirming the student's primary teacher during the initial screening process and referencing the list of teachers for the other student participants.
- Participants needed to speak fluent English so that they could comprehend the instructions and explanations provided during the intervention.

Caregivers of children who met this criteria were given a verbal description of the study, phone number, and email address to contact the investigator. Interested caregivers provided

verbal consent for the phone screening, in which the parent was interviewed to determine if their child met the inclusion criteria. If their child met the criteria, informed consent forms for parent participation and permission for the child to participate in the study were given to the parent through email or mail for the parent to review (see Appendix A and B). The researcher obtained the signed informed consent forms, either through mail or physically submitted to USF Health. Caregiver participants were given \$10 gift cards at the completion of data collection as incentive for participation.

Originally, five parent-child dyads provided consent. These five children had all previously completed PCIT in the past 18 months and attended school in two separate school districts. One of the two school districts did not provide approval to conduct research, which prevented the participation of three of the five recruited dyads. These families were contacted by phone to inform them of the district's decision. The investigator continued to recruit families who were undergoing or had recently completed PCIT. Of note, two families enrolled in PCIT expressed interest in the study, but declined participation following significant improvement in their child's classroom behavior through the course of the home therapy. Informed consent was obtained from three additional families. One dyad decided not to participate due to improvements in behavior following completion of PCIT. The teachers of the remaining two potential participants did not consent to participate in the study. Thus, the actual participant triads came from the original wave of recruitment. The demographic information of the students who participated in the current study is included in Table 2, and that of their caregivers is included in Table 3.

Table 2

Child Demographic Information

Variable	Child (2)
Gender	
Male	2
Female	0
Age	
5	0
6	2
Race/Ethnicity	0
Black/African American	
Hispanic/Latino	0
White	1
Bi-Racial	1
Primary Diagnosis	
Oppositional Defiant Disorder	1
Disruptive Behavior Disorder—Not Otherwise Specified	0
Attention-Deficit/Hyperactivity Disorder	0
Autism Spectrum Disorder	1
Type of Classroom	
Self-contained Classroom	0
General Education Classroom	2

Table 3

<i>Caregiver Demographic Information</i>	
Variable	Caregiver (2)
Relation to Child	
Biological Mother	2
Biological Father	0
Grandparent	0
Race/Ethnicity	
White	1
African-American	0
Hispanic	0
Asian-American	0
Multi-racial	1
Average Age	31
Marital Status	
Single	0
Married	2
Widowed	0
Highest Level of Education	
High School	0
Associate's degree	1
Bachelor's degree	1
Master's degree	0
Advanced degree	0
Adults in Home	
One	0
Two or more	2
Number of Children in Home	
One	0
Two	1
Three or more	1

Following consent to participate from the caregiver, the students' teachers were recruited for participation following the school district's procedures. The student's primary teacher, defined as spending at least 80% of the school day with the student, was included. The teacher

also had to indicate that the child’s classroom behavior problems were of concern to the teacher though self-report and behavior rating scales. Interested teacher participants provided informed consent (see Appendix C). In addition to the services provided during the intervention, teacher participants were offered a \$50 gift card as incentive for their involvement in the study.

Demographic information on the teacher participants is included in Table 4. Of note, a teacher was originally recruited for Participant Triad 2, but dropped out of the study due to health concerns that prevented her employment with the school. Student Participant 2 was placed in a different classroom, and the new teacher was recruited and agreed to participate.

Table 4

Teacher Demographic Information

Variable	Teacher (2)
Gender	
Female	2
Male	0
Race/Ethnicity	
White	2
African-American	0
Hispanic	0
Asian-American	0
Multi-racial	0
Average Age	43
Highest Level of Education	
Associate’s degree	0
Bachelor’s degree	1
Master’s degree	1
Average Years Teaching Kindergarten	2

Teacher-Child Interaction Therapy (TCIT)

Intervention Development. Currently, TCIT exists in the literature as an effective prevention program when used with a group of teachers (Lyon, 2009; Tiano & McNeil, 2006). However, TCIT has potential to be an effective, targeted intervention for students with disruptive behavior disorders. A preliminary model of TCIT was developed by this investigator through review of PCIT procedures and current models of TCIT (i.e., Fernandez et al., 2014; Gershenson et al., 2010; McIntosh et al., 2001; Tiano & McNeil, 2006). A pilot trial with of this model was implemented with a kindergarten student with a disruptive behavior disorder by this investigator as part of her clinical advanced practicum work. Although this student completed PCIT with improved outcomes in the home, she was still exhibiting problem behaviors in her classroom.

Prior to implementation of TCIT, the researcher met with the teacher to introduce the intervention, share the improvements seen in the home environment through PCIT, and clarify the specific disruptive behaviors displayed by the student in the classroom. The piloted model included two phases, CDI and TDI. At the onset of each phase, the researcher met with the teacher for 45 minutes to administer behavior rating scales, teach the corresponding skills, troubleshoot problems, and answer questions. Due to policy restrictions, the researcher was unable to conduct classroom observations of the student's behaviors or the teacher's skills. Instead, the teacher and researcher role-played skills during the consultation sessions.

To implement CDI, the teacher utilized a 10-minute break during which she could conduct special play with the student using the PRIDE skills and minimal questions or commands. After the initial teach session, the teacher implemented CDI daily for two weeks and completed a progress monitoring tool indicating whether she was able to complete special play, how comfortable she felt with each PRIDE skill, and record any comments or questions. The

researcher had a follow up meeting with the teacher to review these skills, discuss progress, and address any concerns. Next, the teacher was trained in TDI. This included didactic content and role playing of behavior management techniques including effective commands, effective reprimands, following through with non-compliance, and combining the CDI and TDI skills. Again, role play was used to practice the skills as well as progress monitoring sheets with a subsequent meeting to address concerns. A graduated time-out procedure was not used during this pilot due to the teacher's request. However, a graduated behavior management system was already in place in the classroom. Therefore, the researcher collaborated with the teacher to align her present system with TCIT principles.

This intervention led to improved student behavior outcomes and reduced teacher stress. Although improvement was seen, particularly in teacher stress, the student's behavior remained at the clinical level. However, critical elements of the intervention were absent from this implementation, namely live coaching and time out. This preliminary work indicated that TCIT has the potential to improve student behavior and reduce teacher stress; however the model required additional development.

Studied Model. This study expanded upon previous TCIT models in numerous ways. First, TCIT was used as a targeted intervention for an individual student with disruptive classroom behaviors, as opposed to a universal prevention. Second, TCIT was used with students who have also undergone PCIT as a way to generalize the effects of PCIT to the classroom. By conducting both PCIT and TCIT, it was hypothesized that the student would demonstrate improved outcomes across settings due to the ecological nature of the intervention. Third, to increase feasibility and acceptability of TCIT, both the teaching and coaching occurred in the school setting.

This study improved upon the preliminary model by including live coaching of both CDI and TDI skills. Initial teaching sessions and follow-up sessions were similar to those used during the preliminary implementation. Additionally, the studied model included a graduated time-out procedure created through collaboration with the researcher, teacher, and relevant school support staff. The following section outlines the intervention components of the studied model of TCIT. Appendix D contains the intervention protocol.

Initial consultation. Before the implementation of the intervention, a therapist met with the teacher to provide an initial consultation. The goals for this consultation were fivefold. First, the therapist gained knowledge of the specific behaviors of concern in order to tailor the focus of the intervention through teacher interview. This also allowed the therapist to ensure that non-compliance was a concern for the teachers. Both teachers provided non-compliance as a behavior of concern. Teacher 1 also stated that aggression, tantrums, and destruction as additional behavior problems. Teacher 2 provided disrupting other students, keeping hands to self, and leaving the area as behavior concerns. Second, information regarding current classroom management techniques as well as specific accommodations and tiered supports for the student were obtained. If possible, these practices and supports were incorporated into the present intervention to reduce stress and increase motivation for the teacher. Third, scheduling and feasibility issues were addressed including scheduling the therapy sessions, as well as scheduling a meeting to establish the time-out procedure (described below). Fourth, the consultation provided a time for the therapist to further explain TCIT and PCIT as well as review any questions or concerns the teacher had. Lastly, this meeting provided an opportunity for the therapist to build rapport with the school staff and emphasize the collaborative nature of the intervention. Gershenson and colleagues (2010) discuss the importance of building a

collaborative relationship with teachers to foster their motivation to implement the intervention, thus teacher collaboration was an important component of this model of TCIT. Any barriers to participation were also discussed and addressed.

Child-Directed Interaction (CDI). The studied model of TCIT included a CDI phase. The aim of this phase is to promote a positive interaction style between the teacher and child in order to foster a nurturing relationship. Following the initial consultation session, CDI began with a 45-minute Teach session, followed by 15 – 20 minute CDI Coach sessions.

CDI Teach. The initial Teach session aims to explain and provide instruction on CDI. First, an overview of the structure and purpose of CDI was provided as well as an explanation of why CDI skills are taught prior to TDI skills. Next, each CDI skill was reviewed, including the definition, examples, and rationale. Teachers were instructed to avoid the “Don’t” skills (i.e., questions, commands, and criticisms) as well as how to use the PRIDE skills (outlined in Table 5). Then the therapist explained how to handle misbehavior during CDI. Specifically, the teacher was instructed to ignore most inappropriate behaviors and provide labeled praise immediately when the student begins engaging in appropriate behavior. For negative behaviors that cannot be ignored (i.e., aggressive or destructive behaviors), the teacher was instructed to end CDI and administer normal classroom consequences. Once the teacher demonstrated understanding of these skills, the teacher and therapist role-played the PRIDE skills.

Following the description and role-play of the CDI skills, the therapist provided an overview of how the teachers could incorporate CDI outside of the therapy sessions. Teachers were asked to spend five minutes each school day practicing CDI in Special Play. If the teacher was concerned about the feasibility of implementing Special Play, the therapist problem-solved any obstacles with the teacher and decided on an acceptable number of Special Play sessions per

week. Special Play could take place at any time when the teacher has the opportunity to spend five minutes of uninterrupted play with the student. Teacher Participant 1 was unable to conduct Special Play one day each week and the day of the coaching session, thus she completed Special Play three days per week during recess. Teacher Participant 2 was able to schedule Special Play before school three days of the week. The time that the teacher could do special play and the toys used during special play were decided on during this Teach session. Moreover, teachers were instructed to use the PRIDE skills during their daily interactions with the target student. The importance of using labeled praise throughout the day was particularly emphasized. Given the nature of the school setting, questions and commands cannot be avoided outside of Special Play. However, teachers were instructed to avoid criticisms at all times because they lower child's self-esteem and create negative interactions. The therapist also encouraged the teacher to use these skills with other students in her classroom. Lastly, time was allotted to troubleshoot any problems, answer questions, and provide homework sheets.

CDI Coach. Following CDI Teach, the teacher partook in CDI Coaching sessions. These sessions took place in the classroom at a time when the teacher did not need to attend to other students. For both of the teachers, there were times when classroom aides were present and could manage the class. The teacher and therapist collaboratively decided the best time and setting for these sessions during the initial consultation. The length of the coaching portion of CDI was also determined through consultation with the teacher.

CDI Coach sessions began with a five-minute coding interval. During this time, the therapist observed the teacher and child during their play and coded the frequency of the CDI skills (i.e., questions, commands, negative talk/criticism, behavior descriptions, reflections, labeled praises, and unlabeled praises). Once coding was complete, the live coaching began. The

therapist sat behind the teacher so that she could observe the interactions and provide over-the-shoulder coaching to the teacher. Prior to the beginning of CDI, the student was told that the therapist would be talking to the teacher, but he should ignore the therapist. If the student attempted to interact with the therapist, she ignored the student until he returned to play with the teacher, and then instructed the teacher to praise the student for returning to the play. The coaching lasted 5-15 minutes, depending on the amount of time available for the session. Following the coaching, the therapist consulted with the teacher for a few minutes. During this time, the teacher (1) provided the therapist with last week's homework sheet and brought up any stressors, (2) was given performance feedback, and (3) was given homework for the upcoming week and told what skills to emphasize during practice.

Graduation from CDI. The CDI portion of the studied model aligns with the majority of current TCIT models (Fernandez et al., 2014; McIntosh et al., 2001; Tiano & McNeil, 2006) as well as PCIT by utilizing mastery criteria to determine the progression through therapy. To meet mastery criteria, teachers had to use 10 behavior descriptions, 10 reflections, and 10 labeled praises with less than 3 questions, commands, or criticisms in one coding session. Once the teacher was able to display these skills during the five minute coding interval, a TDI Teach session was scheduled. Teacher Participant 1 did not meet criteria during her last CDI session because she did not achieve more than 10 reflections, however this teacher had over 30 total PRIDE skills and consistently met the criteria for reflections in previous weeks. Furthermore, the student participant did not verbalize much during this play session. Thus, given the time constraints and teacher's wishes, she was advanced to TDI.

Table 5

Description and Examples of PRIDE Skills

Skill	Description	Examples
PRAISE appropriate behavior	<p>Labeled Praise needs to be:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Specific <input type="checkbox"/> Immediately after the behavior or when taking steps towards more appropriate behavior (it doesn't have to be perfect.) <input type="checkbox"/> Focus on the effort and strategies used to perform the task, not ability <p>Praise</p> <ul style="list-style-type: none"> <input type="checkbox"/> Increases the behavior it follows <input type="checkbox"/> Increases child's self-esteem <input type="checkbox"/> Adds warmth to the interaction <input type="checkbox"/> Helps create positive classroom climate and increase student motivation and persistence <input type="checkbox"/> Makes the teacher and child feel good 	<ul style="list-style-type: none"> <input type="checkbox"/> Good job using your walking feet. <input type="checkbox"/> I like it when you play gently. <input type="checkbox"/> Thank you for sharing with me. <input type="checkbox"/> Smart idea to put the doll in the tower!
REFLECT appropriate talk	<ul style="list-style-type: none"> <input type="checkbox"/> Repeating/paraphrasing what the student says, "Yes, that's a blue crayon" <input type="checkbox"/> Allows child to lead the conversation <input type="checkbox"/> Shows child you're really listening <input type="checkbox"/> Helps you learn to listen <input type="checkbox"/> Shows you accept/understand what child is saying <input type="checkbox"/> Improves and increases child's speech and language <input type="checkbox"/> May feel awkward at first, but becomes natural pretty quickly 	<ul style="list-style-type: none"> <input type="checkbox"/> Child: This house has three rooms! Teacher: Yes, that house does have three rooms! <input type="checkbox"/> Child: I like these dolls. Teacher: You're having fun playing with the dolls. <input type="checkbox"/> Child: These trucks have big wheels. Teacher: Those trucks do have big wheels.

Table 5 (Continued)

Skill	Description	Examples
IMITATE appropriate play	<input type="checkbox"/> Doing exactly what the child is doing, such as drawing a tree if your child is drawing a tree <input type="checkbox"/> Helps you keep your attention/comments focused on what your student is doing <input type="checkbox"/> Helps you play right at your student's developmental level <input type="checkbox"/> Lets the child lead play <input type="checkbox"/> Makes the play fun for the child <input type="checkbox"/> Shows your approval of the child's activity <input type="checkbox"/> Teaches the child how to play well with others	<input type="checkbox"/> You drew a house, I'm going to draw a house too. <input type="checkbox"/> I am putting a doll on the tower, too.
DESCRIBE appropriate behavior	<input type="checkbox"/> State exactly what the child is doing <input type="checkbox"/> Like a sports announcer, a running commentary <input type="checkbox"/> Lets the child lead <input type="checkbox"/> Lets the student know you're interested and paying attention to him/her <input type="checkbox"/> Lets student know you approve of what he/she is doing <input type="checkbox"/> Models speech and teachers vocabulary and concepts <input type="checkbox"/> Holds the child's attention to the task and teaches child how to hold his/her attention to a task	<input type="checkbox"/> You're stacking the blocks. <input type="checkbox"/> You put Mr. Potato Head's hat on. <input type="checkbox"/> You are rolling that truck across the carpet.
Be ENTHUSIASTIC	<input type="checkbox"/> Let your voice show excitement about your student's appropriate behavior <input type="checkbox"/> Lets the child know that you are enjoying the time you are spending together <input type="checkbox"/> Increases the warmth of your play	<input type="checkbox"/> You are being so nice to share with me! <input type="checkbox"/> I like playing nicely with you!

Adapted from Eyberg & Funderburk, 2011

Teacher-Directed Interaction (TDI). TDI is the second phase of TCIT. This phase trains teachers to discipline with a method that emphasizes consistency, predictability, and follow through. Strategies taught during TDI will eliminate coercive cycles between the child and teacher, increase the teacher's skills related to behavior management, and increase the teacher's self-efficacy to handle difficult behaviors in her classroom. Prior to starting TDI, a consultation session to agree upon the time-out procedure occurred. TDI began with an initial, 45-minute Teach session followed by TDI Coach sessions.

Time-Out development. Time-out from reinforcement is an effective behavior management technique and a core element of PCIT. The specific procedure used to remove reinforcement should be decided upon collaboratively for multiple reasons. Implementing time-out, or any other disciplinary strategy, in the school setting introduces ethical concerns. Teachers may have varying personal beliefs and hesitations related to the use of time-out with students. Collaboration can assist in reducing concerns and ensure motivation to use this strategy. Furthermore, incorporating administration and other support staff in the development of time-out procedures is crucial. Many early childhood classrooms already have graduated behavior management systems in place. Administration would be aware of the school and district policies related to the use of time-out. Additionally, the procedure may require the help of additional school staff, and thus necessitate their cooperation. Parents were also invited to assist with the development of time-out since they have ethical and legal right to information related to services provided to their child in school, although neither was able to attend.

The collaborative approach for developing time-out was modeled after Gershenson and colleague's (2010) Sit and Watch planning procedure. Thus, time-out was referred to as Sit and

Watch with the Teacher Participants. Table 6 outlines the elements that were discussed as well as examples.

Table 6

Sit & Watch Planning in TCIT (Gershenson, Lyon, & Budd, 2010; p. 276)

Essential Element	Examples
Behavior for which Sit & Watch will be used	Fighting— hitting, kicking, or biting another child or the teacher
Brief statement at beginning	“Because you threw a block, you have to sit and watch how the other children play.” “We don’t throw toys. You need to go to Sit and Watch.”
Location for child to be seated	Approximately 5 feet outside the activity area, facing the activity
Time length and requirement to end	One minute in chair, with five seconds of quiet at the end
Procedure if child gets out of chair or misbehaves	<ul style="list-style-type: none"> A. Return child to the chair (“Stay here until I tell you that Sit & Watch is over”) and restart timer B. If child gets up more than two times, move chair to quiet corner of room C. Extend time by one or two minutes if needed D. Then have child return to Sit & Watch chair and sit for one minute
Brief statement at end of Sit & Watch	“You may come back to the activity now.”
Teacher attention to appropriate behavior	Labeled praise of child’s appropriate behavior

The removal of reinforcement procedure collaboratively developed with Teacher Participant 1 is presented in Appendix E. No administration or other support personnel attended the meeting; however the student’s classroom aide was included in the procedure. The teacher stated that she was not comfortable using a time out procedure for non-compliance with the student participant, although she identified it as a behavior concern. She reported that her main

concern was aggression, which occurred 1 – 3 times per day. Observational data supported low frequency disruptive behaviors for this student. Furthermore, the teacher reported that the student only displayed non-compliance when he wanted to escape academic tasks, and this behavior was handled by his classroom aide. The researcher agreed that time out may not be the most appropriate response to this behavior. Therefore, a Sit and Watch procedure was collaboratively planned to address aggressive behaviors. The language used to discuss aggression (i.e., breaking rule #4), as well as how to remedy the relationship (i.e., make your friend feel better) was incorporated into the script. In order to end the Sit and Watch procedure and return to class, the student participant was prompted to demonstrate an appropriate social skill toward the person he struck or repair what he broke.

The Sit and Watch procedure developed with Teacher Participant 2 addressed both non-compliance, touching other students, as well as aggression (see Appendix F for full procedure). In addition to the therapist and teacher, the guidance counselor attended the meeting and offered support for implementation of the back-up procedure. Non-compliance and aggression were referred to as “following directions” and “using gentle hands” respectively in this classroom. Furthermore, the classroom is attached to an ESE kindergarten classroom. The back-up procedure for this student included an out of classroom time out in the ESE classroom supervised by either the aide in this classroom or the guidance counselor. In order to return to the class, this student was required to either comply with the original task, or apologize to the person he had displayed aggression towards.

TDI Teach. TDI Teach sessions began with a brief review of progress and any pressing stressors. Next, teachers were provided with an overview of the purpose and format of TDI, including the continuation of daily Special Play. The TDI guidelines for effective commands (see

Table 7) were taught to both teachers. Although Teacher Participant 1 did not include non-compliance as a target behavior, aggression was viewed as non-compliance with a classroom rule. Additionally, effective commands are an important skill needed by teachers, and still considered an aspect of this intervention regardless of the Sit and Watch procedure. Next, the Sit and Watch procedure and script were reviewed. Once these skills were understood by the teacher, the skills and time-out procedure were role-played. Lastly, the teacher was instructed to continue using CDI skills throughout the day and not to implement the Sit and Watch procedure until practiced during therapy sessions.

TDI Coach. Prior to starting the first TDI Coach session, the Sit and Watch procedure was taught to the student. For both participant triads, TDI began with a five-minute coding of CDI skills. If necessary, the therapist provided feedback or a few minutes coaching in CDI.

Because Teacher Participant 1 did not choose to include non-compliance as a target behavior for this intervention, TDI Coaching sessions could not include the compliance training typical of PCIT. Following the practicing of CDI skills, the therapist and teacher met without the student present to role play the Sit and Watch procedure. Additionally, the therapist provided coaching to the teacher during whole group instruction, which was the environment in which the student was most likely to display aggression. Furthermore, the therapist provided feedback related to the teacher's implementation of the procedure during sessions and problem-solved any concerns. Due to the low frequency nature of the behavior and the teacher's comfort level, she implemented this procedure following the first coaching session.

Table 7

Guidelines for Effective Commands

Rule	Description	Examples
<u>Direct</u> rather than indirect	<ul style="list-style-type: none"> Do not use questions, make it clear that the student is being told to do something. Do not give the child a choice or suggest it is an option. Reduces confusion for young children. 	<ul style="list-style-type: none"> Please hand me the doll. Put the toy in the cubby. Draw a house. <p>Instead of:</p> <ul style="list-style-type: none"> Can you hand me the doll? Let's put away the toys. Would you like to draw a house?
<u>Positively</u> stated	<ul style="list-style-type: none"> Tell child what to do, rather than what not to do. Do not criticize the child's behavior Provide a clear description of what the child should do 	<ul style="list-style-type: none"> Sit in your chair. Walking feet! Hands on your desk <p>Instead of:</p> <ul style="list-style-type: none"> Don't walk around the room Don't run! Stop touching your neighbor.
Given <u>one at a time</u>	<ul style="list-style-type: none"> Too many commands can be hard for young children to remember. 	<ul style="list-style-type: none"> Put your pencil away. Go to your seat. <p>Instead of:</p> <ul style="list-style-type: none"> Put your pencils away, put your papers in your folder, and make your way to the carpet. Go to your seat and get out a piece of paper and your crayons.
<u>Specific</u>	<ul style="list-style-type: none"> Allows children to know exactly what they're supposed to do. 	<ul style="list-style-type: none"> Talk in a quiet voice Listen to the story <p>Instead of:</p> <ul style="list-style-type: none"> Behave Pay attention

Table 7 (Continued)

Rule	Description	Examples
Should be <u>age-appropriate</u>	<ul style="list-style-type: none"> • Make sure vocabulary is appropriate and students understand the command. • Can break apart into several steps 	<ul style="list-style-type: none"> • Put the yellow blocks in the orange box. Thank you for listening, Now put the green blocks in the blue box. Thank you for listening, etc. • Draw a circle <p>Instead of:</p> <ul style="list-style-type: none"> • Sort the block by colors and place them neatly in the appropriate place. • Form a round shape on your paper
Given <u>politely and respectfully</u>	<ul style="list-style-type: none"> • Use a normal tone of voice. You can start off with please! • Do not yell, be harsh or be sarcastic • Increases the chance that the student will listen • Teaches children to obey polite and respectful commands, not only when they are yelled at 	<ul style="list-style-type: none"> • Please hand me your paper <p>Instead of:</p> <ul style="list-style-type: none"> • Give me your paper right now!
Explained either before the command is stated or after command is obeyed	<ul style="list-style-type: none"> • Avoids the child asking “why” as a delay tactic • Prevents having to give child attention for not obeying 	<ul style="list-style-type: none"> • It’s lunch time, line up at the door. <p>Instead of:</p> <ul style="list-style-type: none"> • Teacher: Line up at the door Child: Why? Where are we going? Teacher: We have to line up at the door so we can walk nicely to lunch
Used only when necessary	<ul style="list-style-type: none"> • Decreases the child’s frustration 	<ul style="list-style-type: none"> • Sit in your seat <p>Instead of:</p> <ul style="list-style-type: none"> • Stop tapping your pencil on the desk

Adapted from Eyberg & Funderburk, 2011

For Participant Triad 2, the teacher was then instructed to prompt the student that TDI was beginning following the CDI coaching. The teacher practiced giving effective commands and following through in response to compliance and non-compliance. Prior to TDI, the teacher was warned that time-out could take longer than the allotted time frame for therapy, and the appropriate accommodations were put in place. TDI ended with a consultation and feedback of skills similar to the end of CDI. As the teacher progressed through TDI, she gradually applied the Sit and Watch procedure outside of therapy sessions, depending on her comfort level. Originally, as outlined in the TCIT manual, a slow introduction into the classroom was planned. However, the teacher expressed both comfort with the procedure and a desire to implement the procedure right away. Thus, after the first session, she implemented Sit and Watch when the aide was present in the classroom. She incorporated the procedure into the entire school day after the second session. Following the second session, the therapist provided an additional 15 minutes of live coaching during classroom instruction. She coached the teacher in the Sit and Watch procedure while managing the rest of her classroom.

Graduation from TDI. Mastery criteria was also used to determine graduation from TDI, and the end of therapy. The graduation criteria included: (1) CDI skills mastery, (2) TDI skills mastery (i.e., 75% accurate Sit and Watch procedure), (3) sub-clinical ratings of child's problem behaviors (i.e., SESBI-R scores below 55), and (4) teacher self-efficacy in managing target child's behavior. Once a teacher-child dyad met these criteria, a graduation session took place. The therapist reviewed the progress made, addressed any remaining concerns, and gave certificates of completion to the child and teacher.

Research Design

A non-concurrent multiple-baseline (MB) single case design (SCD) was utilized for this study. A single case design was chosen because it provides a systematic way of evaluating whether the implementation of an intervention has an effect on behavior. A MB procedure involves introducing the intervention to different participants at different times and comparing the changes between phases across participants. In SCD, as opposed to analyzing a few observations of a large sample, a large number of observations from a small sample are analyzed. The advantages of SCD for this study are: (1) continuous data could be collected to analyze the nuances in change over time; (2) the baseline performance of each participant served as his own control, and (3) generality could be feasibly tested (Kazdin, 2011). Additionally, because the intervention was skills-based and occurred over a prolonged amount of time, withdrawal was not feasible or ethical. Therefore, MB provided an appropriate design that allowed the researcher to evaluate whether there was a change in the outcome and whether the intervention likely produced that change (Kazdin, 2011). In the current study, the main variable of interest was the teacher skills, specifically feedback to students and effective commands, and thus continuous data on this variable were collected. Moreover, data related to the impact of these skills on student disruptive behaviors in the classroom were collected weekly because reducing these behaviors was the ultimate goal of the intervention. The remaining variables were measured through either probe assessment or pre- post-treatment measures. The measures used, data collection procedures, and methodology for analysis are delineated below.

Measures

Data were collected during four stages of this study: screening, baseline, treatment, and post-treatment. Best practice for single-case design dictates that the variables of interest be

measured continuously through direct observation and supported with a rating scale (Kazdin, 2011). Thus, systematic direct observation was used to measure student (i.e., disruptive behaviors) and teacher (i.e., behavior management skills) outcomes on a continuous basis. Additionally, measures related to teacher-child relationships and behaviors in the home were collected on a less frequent, probe assessment schedule. Acceptability of treatment was assessed at the end of the intervention. Lastly, data were collected to ensure TCIT was implemented with integrity. Various rating scales were chosen because they are psychometrically sound and typically used during the implementation of PCIT.

Screening Measures. Various screening measures were used to determine if participants met inclusion/exclusion criteria.

Demographic Questionnaire. Two demographic questionnaires were created by the principle investigator (see Appendix G and Appendix H). These collected child demographic information including name, date of birth, and race/ethnicity. This information was also collected about the caregiver as well as marital status, relationship to the child, and highest level of education obtained. Questions also assessed additional caregivers, other children in the home, child's preschool experiences, and previous medical and mental health diagnoses. Additionally, a questionnaire was completed by the teacher to gain information on gender, race/ethnicity, age, highest level of education, and years of preschool teaching experience.

Teacher Report Form (TRF). Respondents to the TRF (Achenbach & Rescorla, 2000) include teachers, or other school professionals who interact regularly with the child and have known him for more than two months. In the present study, the children's kindergarten teachers, who participated in the study, were asked to complete it. The TRF has 100 quantitative items rated from 0 to 2. Additionally, it includes eight syndrome scales (i.e., Anxious/Depressed,

Withdrawn/Depressed, Somatic Complaints, Attention Problems: Inattention and Hyperactivity-Impulsivity, Social Problems, Thought Problems, Rule-Breaking Behavior, and Aggressive Behavior), internalizing, externalizing, and total problem scales, as well as DSM-oriented scales.

All 100 quantitative items were administered during this study. Scores prior to treatment confirmed that behavior problems were present at school. Participants were required to display borderline or clinically significant problem behaviors prior to the beginning of the study. A score over 60 on the Externalizing Problems scale was used as the criteria for borderline or clinically significant disruptive behaviors. Specific example items from these scales include, “Defiant,” “Difficulty following directions,” and “Destroys property belonging to others.” In addition to being administered prior to the beginning of the study, teachers completed the TRF at post-treatment.

The TRF demonstrates high test-retest reliability as well as internal consistency. The Externalizing Problems scale has a test-retest value of .89 and internal consistency value of .95. Values for test-retest reliability of the syndromes scales range from .83 (Rule-Breaking Behavior and Somatic Complaints) to .96 (Inattention). Internal consistency values for these scales fall between .72 (Somatic Complaints and Thought Problems) and .95 (Rule-Breaking Behavior and Aggressive Behaviors; Achenbach & Rescorla, 2000).

Outcome Measures. Throughout baseline and treatment phases, multiple dependent variables were assessed. Data were collected regarding classroom behavior. Teacher participants completed measures to assess the student’s disruptive behavior in the classroom, teacher stress, as well as the teacher-child relationship. Additionally, systematic direct observations of the child’s disruptive behavior as well as the teacher’s behavior management skills, specifically CDI and TDI skills, were conducted weekly. Due to the limited amount of time available during

observation and intervention sessions, teacher participants completed the rating scales the morning prior to the classroom observations and delivered the completed protocols to the observer.

Eyberg Child Behavior Inventory (ECBI). The ECBI (Eyberg & Pincus, 1999) is a brief, 36 item measure of child externalizing behavior in the home environment. Example items include, “Refuses to obey until threatened with punishment,” and “Is careless with toys and other objects.” Two scores are obtained through the ECBI, the Intensity scale and the Problem scale. Parents indicate the intensity of child behavior by rating each behavior on a Likert scale ranging from 1 (*never*) to 7 (*always*). Higher scores reflect greater levels of externalizing behaviors. The Problem scale indicates the amount of stress the child’s disruptive behavior has on the parent. Raters answer whether this behavior is a problem by circling *YES* or *NO*. Higher scores denote a higher level of parental stress. T-scores greater than or equal to 60 are considered clinically significant. Both ECBI subscales were administered during the first and last weeks of the baseline phase to monitor child and parent progress, as is typical practice during implementation of PCIT. The ECBI was also administered when the teacher progresses from CDI to TDI, and the end of the treatment to monitor child disruptive behavior in the home.

Internal consistency and test-retest reliability was calculated with a standardization sample comprising 512 children (i.e., ages 2-12) and 102 adolescents (i.e., ages 13-16) and a restandardization sample of 798 children aged 2-16. The Intensity scale yielded internal consistency coefficients of .98 and .95, respectively. Internal consistency coefficients for the Problem scale were .98 for the original sample and .93 for the second. Test-retest reliability was also high for both scales, with the Intensity scale coefficients equaling .86 for the original sample and .80 for the second sample and the Problem scale coefficients equaling .88 and .85 for each

sample (Eyberg & Pincus, 1999). Furthermore, concurrent validity of the ECBI Intensity scale with the CBCL Externalizing Problems score in preschool children ($n = 24$; $r = .86$) demonstrated that it is a valid, yet concise, measure of externalizing behavior problems (Boggs, Eyberg, & Reynolds, 1990).

Sutter-Eyberg Student Behavior Inventory-Revised (SESBI-R). The SESBI-R (Eyberg & Pincus, 1999) is the teacher correlate of the ECBI. Similar to the ECBI, it is a 36 item measure that includes a 7-point Intensity scale and Yes-No Problem scale. However, the SESBI-R is completed by teachers or daycare providers of children aged 2 to 16 with externalizing behavior concerns. Sample items include: “Does not obey school rules on his/her own,” and “Has difficulty entering groups.” This scale was administered weekly to teacher participants throughout the entire data collection period to provide continuous assessment of disruptive behavior in school and teacher stress. Internal consistency for the SESBI-R was strong for both the Intensity scale (.98) and the Problem scale (.96). Test-retest reliability was also strong, ranging from .90-.94 for the Intensity scale and .89-.98 on the Problem scale (Eyberg & Pincus, 1999). Additionally, significant correlations between SESBI-R Intensity scores and the C-TRF Externalizing Problems scale ($r = .71$) demonstrate this measure’s concurrent validity (Rayfield, Eyberg, & Foote., 1998).

Student-Teacher Relationship Scale - Short Form (STRS-SF). The STRS–SF (Pianta, 2001; see Appendix I) was used to measure teacher-child relationship. It measures student-teacher closeness and conflict as reported by the teacher. It includes fifteen total items rated on a 5-point Likert scale from “Definitely Applies” to “Definitely Does Not Apply” to statements reflecting relationship characteristics. Examples of items related to closeness include, “I share an affectionate, warm relationship with this child.” Examples measuring conflict include, “The child

and I always seem to be struggling with each other.” With a sample of 24 kindergarten teachers rating relationships with 72 children across a four-week period, both scales demonstrate acceptable test-retest reliability (Closeness: $r = .88$; Conflict: $r = .92$; Total: $r = .89$; Pianta, 2001). Furthermore, concurrent validity between the STRS and teacher-reported behavior problems as well as measures of student competence have been demonstrated (Hightower et al., 1986). This measure was completed as a probe assessment and administered at four time points throughout baseline and treatment phases: the first and last weeks of the baseline phase, the first week of TDI, and at the end of treatment.

Systematic Direct Observation. Systematic direct observations were conducted weekly in the classroom during baseline and treatment phases to measure teacher skills and student behaviors.

Student behavior observation. A 15-minute partial interval sampling was used to collect frequency of child’s noncompliance and disruptive behaviors (i.e., aggression, non-compliance, and destruction of property). The exact disruptive behaviors included in the observation were determined through teacher interview prior to any data collection. The behaviors identified for Student Participant 1 included tantrums, aggression, destruction, and non-compliance. Student Participant 2’s disruptive behaviors included disrupting other students with words, keeping hands to self, non-compliance, and leaving area. The time sampling forms with operational definitions of each behavior are provided in Appendix J and Appendix K.

Dyadic Teacher-Child Interaction Coding System (DTICS). The frequency of teacher’s use of positive and negative feedback, and teacher’s TDI skills (i.e., effective commands, effective reprimands, correct follow-through sequences) were observed for a 5-minute frequency observation each week. These observations utilized an adaptation of the Dyadic Parent-Child

Interaction Coding System (DPICS; Eyberg & Robinson, 1983), the Dyadic Teacher-Child Interaction Coding System (DTICS). Specifically, the DPICS assesses parents' frequency of eight skills: labeled praise, unlabeled praise, behavior descriptions, reflections, direct commands, indirect commands, questions, and critical statements. This measure has been standardized with 22 families with reliability estimates ranging from .69 to .99 (Bessmer, Brestan, & Eyberg, 2005).

The examiner of the current study adapted the DPICS to the DTICS for use in the classroom. All of the eight skills in the DPICS were included in the DTICS. This coding system allowed for the recording of the teacher's interactions with the target student, while adding for the observation of these skills with other students and group of students (See Appendix L).

Observers were graduate students in the School Psychology Program at the University of South Florida who received graduate training in this method of assessment. Additionally, these observers were required to attend three hour-long trainings on this particular observation tool, during which the definition of the target behaviors were explained and practice observations were conducted. Observers continued to attend training sessions and complete practice observations until they met 80% inter-observer agreement (IOA).

Point-by-point agreement was used to assess IOA on the systematic direct observations of student and teacher behavior. Agreements were defined as two observers independently indicating the presence of a behavior. To avoid inflation of the point-by-point ratio intervals in which neither observer records the behavior were excluded. Agreement was regarded as acceptable if it met or surpassed 80%. If the 80% agreement was not met, the observation was repeated (See IOA Calculation Form in Appendix M). In accordance with WWC criteria for

meeting evidence standards (Kratochwill et al., 2013), IOA was calculated for at least 20% of the data collected through systematic direct observation at each phase.

Intervention Acceptability and Integrity Measures. In addition to measures of effectiveness of the intervention, measures of acceptability and integrity were administered. Treatment acceptability was assessed through the Treatment Evaluation Inventory (TEI; Kazdin, 1980). The integrity of implementation by the teachers was measured through homework sheets created as part of the intervention manual. Therapist intervention integrity was measured through fidelity checklists.

Treatment Evaluation Inventory (TEI). The TEI (Kazdin, 1980) is among the most widely used measure of treatment acceptability for interventions with children with behavior disorders (Finn & Sladeczek, 2001). This measure includes 15 items, validated through a confirmatory factor analysis (Kazdin, 1980). Additionally, internal consistency estimates have reported α coefficients ranging from .89 to .97 (Kelley et al., 1989; Spirrisson, Noland, & Savoie, 1992). Respondents rate the 15 questions on a seven-point Likert-type scale, anchored by various descriptive statements. Example items include: "How effective is this treatment likely to be?" and "Overall, what is your general reaction to this form of treatment?" The TEI was administered to teacher participants at the completion of the intervention.

TCIT Homework Sheets. Similar to PCIT, teachers practiced the TCIT skills throughout the week during special play. Worksheets were created (see Appendix D) to track teachers' completion of special play and allow for teachers to take note of concerns and/or questions. These sheets were used as a tool to facilitate communication as well as provide a measure of treatment adherence. The percent of days the teacher engaged in special play with the student was used as a measure of integrity.

TCIT Fidelity Checklists. To ensure fidelity of implementation on the part of the therapist, checklists were created that correspond to each TCIT session (see Appendix D). These checklists were completed after each session with the teacher by the therapist. A percentage of session components completed each session was calculated and an average percentage across sessions was used to assess the therapists' implementation fidelity.

End of Treatment. Following the implementation of TCIT, various measures were administered to assess outcomes at the end of the treatment phase. This included the continuous assessments (i.e., SESBI-R and SDO), probe assessments (i.e., ECBI and STRS-SF), and pre-post measures of behavior (i.e., TRF). Additionally, a measure of treatment acceptability, the Treatment Evaluation Inventory (TEI; Kazdin, 1980) was administered.

Data Collection Procedure

This section outlines the data collection procedures used in the present study. Descriptions of each data collection phase, including the screening, baseline, and treatment phases, are discussed. Table 8 outlines each variable of interest, the method of measurement, and when the data were collected.

Screening phase. Caregiver and teacher participants completed screening measures to determine if participants met inclusion criteria for the study. Specifically, the parent completed the demographic questionnaire and the teacher participants completed the demographic questionnaire and TRF.

Table 8

Data Collection Schedule

Variable	Measure	Screening	Baseline Phase	Treatment Phase	End of Treatment
Demographic Data for Student, Caregiver, and Teacher Participants	Demographic Questionnaires	X			
TCIT Implementation Integrity	TCIT Homework Sheets			X	
	TCIT Fidelity Checklists			X	
Teacher Feedback to Student	DTICS		X*	X*	
Effective Commands	DTICS		X*	X*	
Disruptive Behaviors (School)	TRF (Achenbach & Rescorla, 2000)	X			X
	SESBI-R (Eyberg & Pincus, 1999)	X	X*	X*	X
	Systematic Direct Observation		X*	X*	
Teacher Stress	SESBI-R (Eyberg & Pincus, 1999)	X	X*	X*	X
Teacher-Child Relationships	STRS-SF (Pianta, 2001)	X	X	X	X
Disruptive Behaviors (Home)	ECBI (Eyberg & Pincus, 1999)	X	X	X	X
Treatment Acceptability	Treatment Evaluation Inventory (Kazdin, 1980)			X	X

Note: * indicates measures used for continuous assessment and were administered weekly

Baseline Phase. Following the collection of pre-treatment data, participants began baseline data collection. Caregivers completed the ECBI to monitor the child's disruptive behaviors in the home environment as a probe assessment. This allowed the examination of any trends in disruptive behaviors at home that may have accounted for changes in disruptive behaviors at school. Since disruptive behaviors at home were not a main focus of the study, the parent rating scale was only administered during the first and last week of baseline for each child.

Disruptive behaviors in the schools were continuously measured through the SESBI-R and weekly SDO. The SESBI-R was also used to measure teacher stress. Additionally during baseline, the teachers' use of positive feedback, negative feedback, and effective commands was recorded weekly through the DTICS observation measure. The teacher participants completed the STRS-SF the beginning and end of baseline as a probe assessment of the relationship between the student and teacher. Teachers were given these rating scales to complete the morning of the observations and were provided an envelope to give any completed measures to the investigator conducting the observation.

Random Assignment. The length of the baseline phase was randomly determined prior to data collection for each participant triad. This process was used to increase internal validity by ruling out history as a threat to validity (Kratowill & Levin, 2010). Furthermore, WWC Standards indicate a minimum of three baseline data points should be used, but five is preferable (Kratowill et al., 2013). However, the use of a minimum of five data points would significantly delay implementation of the intervention (i.e., up to two months), which introduces ethical concerns. Therefore, the investigator decided to randomly assign participants to minimum of three and a maximum of seven data points. Two weeks between each treatment were allotted

to allow for a change in level of teacher skills, given that immediate changes in behavior was not expected. This increased the confidence that the change observed is a function of the implementation of the intervention. Participant triad 1 was randomly assigned to seven weeks of baseline, while participant triad 2 was randomly assigned to five weeks of baseline.

Treatment Phase. TCIT was implemented according to the model described previously. TCIT began with a CDI Teach session. This session occurred immediately following the final baseline observation to reduce the time between baseline and treatment. For Participant Triad 2, the CDI Teach and CDI coaching session #1 occurred on the same week as well as TDI Teach and TDI coaching session #1, constituting the same weeks of the treatment phase. Weekly data collection continued for both participants throughout the intervention, including weekly observations of teacher skills, SDO of child behavior, and the SESBI-R. Data collected as part of the intervention implementation included a five-minute observation of teacher skills (DTICS) and weekly homework sheets to assess treatment integrity. Additionally, fidelity checklists for each session were completed by the therapist to ensure that the intervention was implemented as intended. Probe assessments of teacher-child relationships as well as disruptive behaviors at home were administered once the teacher progressed to TDI, and end of TCIT.

End of Treatment. Various outcome measures were administered at the end of treatment implementation. In addition to the weekly-administered assessments (i.e., SESBI-R), the TRF was administered as a post-measure of the child's disruptive. The ECBI and STRS-SF were also completed at this time point. Lastly, teachers completed the TEI as a post-treatment measure of acceptability.

Data Analysis

Preliminary analyses included the calculation of interobserver agreement (IOA) to measure the reliability of the observations. Descriptive analyses were then run to examine Research Question One. The outcome variables related to Research Questions Two, Three, and Four were analyzed through visual analysis. These findings were supported by a Masked Visual Analysis and Regression analysis. The results of Research Question Five were analyzed through visual analysis. Lastly, descriptive statistics were used to answer Research Question Six. The exact methodology is outlined below.

Interobserver Agreement. In order to ensure the reliability of the observational data used throughout this study, IOA was calculated. As mentioned previously, graduate students in the USF Early Childhood Research Group underwent training on the observation measures and obtained agreement of 80% during mock observations prior to data collection. Two observers were present during and obtained an agreement of 80% for at least 20% of the data points in each phase, in accordance with WWC Standards (Kratochwill et al., 2013). This percentage was calculated immediately following the observation. If 80% agreement was not obtained, the observers repeated the observation. IOA was calculated through a point-by-point ratio, as represented by the following equation:

$$\text{Point-by-point agreement} = (A / A + D) \times 100$$

where A is the number of agreements and D is the number of disagreements.

Implementation Integrity. Integrity checklists for each TCIT session are included in the intervention protocol (see Appendix D). Each intervention component present during implementation was marked on the checklists. A percentage of components implemented was calculated for each session with the following equation:

$$\frac{\text{Number of Completed Steps}}{\text{Number of Total Steps Possible}} \times 100$$

Visual Analysis. The data related to three variables of interest, teacher skills, child disruptive behavior, and teacher stress, were graphed for each participant. These visual displays of the outcomes were analyzed in accordance with the WWC standards for single case design (Kratochwill et al., 2013). Level, trend and variability of the data were examined. Due to the nature of the intervention, immediate shifts in level were not expected for child outcomes or teacher stress. However, immediate changes in level of teacher skills at each phase change was used to determine internal validity.

The following steps were taken to complete the visual analysis. First, the data were examined to determine whether a stable and predictable baseline pattern had been established. Next, the pattern within each phase was examined. This allowed for a description of the outcome variable for each case and phase. Third, data were compared across phases to investigate whether predicted changes in patterns occurred following implementation of TCIT. The total number of demonstrations of effect and non-effect were assessed to determine whether an inference could be made that the intervention had an effect on each of the outcome variables. The greater the number of demonstrated effects and the lower the number of demonstrations of non-effects increased confidence that the changes in outcomes were a function of the intervention. Additionally, the percent of non-overlapping data points (PAND) were calculated. The higher the percentage, the more confidence could be placed in an intervention effect. Criteria for non-overlap indices described by Scruggs and Mastopieri (1998) were used as criteria for effectiveness. Specifically, percentages less than 50 indicated no observed effect, 50 to 70 represented a questionable effect, and greater than 70 was considered an observed effect.

Masked Visual Analysis. To control for Type 1 error, a Masked Visual Analysis (MVA) was utilized (Ferron & Jones, 2006). One visual analyst, who was blind to the participants' assignments, was presented with masked graphs of each Participant Triad's outcome data. Specifically, the teacher's total number of positive and negative interactions as measured by the DTICS, the SESBI-R Intensity Scale, the SESBI-R Problem scale, and the SDO of student behavior were presented. The visual analyst then estimated which of the three possible conditions each triad was randomly assigned. The number of specifications until the visual analyst correctly identified the correct assignments as well as the total number of possible assignments are reported.

Regression Analysis. Analysis of regression models provided an additional tool to determine the effect of the intervention and supplement visual analysis in accordance with Ferron (2002). Regression analyses allowed for an estimate of the difference between the observed values and the expected values if no treatment had been implemented. Models provided calculations of the treatment effect as well as the standard error of that effect and confidence limits. Expected changes in behavior were used to make two determinations regarding the regression models that estimated treatment effects for each variable. First, if different types of effects were expected for CDI and TDI, it was decided that separate models would be run to compare each phase to baseline. Second, it was decided whether a change in both level and trend were expected. If no change in trend was expected, the treatment effect was estimated by the following equation:

$$\hat{y} = b_0 + b_1 \text{ phase}$$

where b_0 is the mean of the baseline phase and b_1 is the observed treatment effect. If a change in trend was expected, an interaction term was added to account for the moderating effect of time.

The phase variable was dummy coded (0 = baseline; 1 = treatment) and trend was formed as the product of time and phase. The corresponding equation is:

$$\hat{y} = b_0 + b_1 \text{phase} + b_2 \text{phase} * \text{time}$$

Given that the effects are expected to increase over time, the treatment effect was estimated at the end of data collection, with time centered with 0 at the last observation. Regression analyses typically assume independence of the observed errors. Because multiple data points in single case design come from a single participant, this assumption can be violated. Thus, models are run both with and without autocorrelation ($\phi = 0.2$). This allowed estimates with an adjusted alpha to provide a more conservative confidence interval around the treatment effect. A treatment effect was considered significant when the more conservative confidence interval, considering autocorrelation, did not include 0 as a possible value for the effect.

Probe Assessments Analysis. Two measures were administered on a probe assessment schedule; the ECBI and STRS-SF. Descriptive statistics were calculated for these data. Additionally, these data were graphed and changes over time discussed.

Treatment Acceptability. Treatment acceptability was measured through the TEI (Kazdin, 1980). This scale includes 9 items that are rated on a Likert scale ranging from 1 to 5, with 1 indicating low acceptability, 3 indicating moderate acceptability, and 5 indicating high acceptability. The average of the 9 ratings were calculated to determine a total acceptability score. Descriptive analyses were conducted on the teachers' total acceptability score.

Chapter Four:

Results

This chapter presents the data used to answer the six research questions addressed in the current study. First, the reliability of the observation data is discussed. Descriptive analyses related to integrity of the implementation of the intervention by the researchers and the teacher participants is summarized. Next, results from visual analysis and supporting analyses demonstrating the intervention's effect on teacher-child interactions, student classroom disruptive behaviors, and teacher stress are outlined. These findings are further examined through masked visual analysis and regression analyses. Following these discussions, analyses related to the other variables of interest, specifically disruptive behaviors at home and teacher-child relationships, are summarized. Lastly, results regarding the acceptability of treatment are delineated.

Data Entry

Measures were screened at the time of data collection by the graduate student observers. If data were missing, the observer prompted the participant to complete the measure. Protocols were scored and entered into a Microsoft Excel spreadsheet by the principal investigator. At least 20% of the protocols at each phase were scored by a second rater and compared to the original total entered into the spreadsheet. The data were scored and entered with 100% accuracy across participants and measures.

Interobserver Agreement

Agreement was established for at least 20% of the data collected on the dependent variables. Interobserver agreement was established for both observation measures. Specifically, two observers attended at least 20% of the sessions and immediately calculated IOA by dividing agreements over the total number of agreements plus disagreements. If any observations were below 80% agreement, the measure was repeated. Otherwise, the IOA was recorded. Average agreement on the DTICS for Participant Triad 1 was 81.8% and fell within a range of 77.8% to 86.3% with a *SD* of 4.06. Similarly, the average agreement on this measure was 84.6% for Participant Triad 2, ranging from 81.5% to 86.2%, with a *SD* of 2.67. The average IOA for the SDO of disruptive behaviors was 99.7% (range: 98.3% - 100%; *SD* = 0.69) and 98.6% (range: 91.3% -- 100%; *SD* = 3.55) for Participant Triad 1 and 2, respectively. Overall, a high level of IOA was established for both observation tools.

Implementation Integrity

Implementation integrity was measured for two components of the intervention. First, the fidelity of the intervention implementation by the therapist was measured. Second, the integrity of the special play homework sessions was calculated (see Appendix D for integrity sheets). These percentages are reported below.

Therapist Implementation Integrity. To calculate the percent of therapist integrity, the number of completed steps was divided by the total number of possible steps on each TCIT session checklist completed by the therapists according to self-report on fidelity. Each session percentage was calculated and then averaged across the entire treatment phase.

The intervention protocol for TDI was significantly adapted for Participant Triad 1. Thus the therapist indicated that multiple steps were non-applicable on the integrity forms. Non-

applicable items were not included in the integrity calculation. Of the applicable steps, integrity was high for both phases of TCIT. The percentage of session integrity for Participant Triad 1 during CDI was particularly high; $M = 98.49$, $SD = 3.71$, Range = 90.91% – 100%. The integrity for TDI steps ranged from 62.5% to 100% with an average of 92.5% and SD of 15.31.

For Participant Triad 2, the percentage of completed steps ranged from 91.67% to 100%, with an average of 97.92% ($SD = 4.17$) during CDI. Integrity during TDI for this triad was equally high, ($M = 97.78$; $SD = 4.97$; Range = 88.89% - 100%). Overall, the therapy sessions were completed with 96.86% ($SD = 8.59$) integrity by therapists, indicating a high level of integrity.

Teacher Implementation Integrity. Weekly reflection sheets completed by teachers were used to measure the number of days they completed the special play component of the intervention. The therapist and teacher agreed upon a goal for the number of days for special play in between each intervention session. The actual number of days of special play was divided by the goal to calculate a percentage. Teacher 1 agreed to attempt special play three days outside of TCIT sessions. The percentage of completed special play sessions ranged from 33.33% to 100% for Triad 1. This teacher had an average of 83.33% ($SD = 24.22$) special play completion. Teacher 2 had a higher level of integrity, with an overall average of 92.59% ($SD = 14.70$), ranging from 66.67% to 100%. This triad aimed to complete special play before school three days a week in addition to the special play session during TCIT sessions. The teacher reported that missed days were due to the student arriving to school after the assigned special play time. Taken together, the teacher participants implemented Special Play with 88.89% integrity.

Visual Analysis

The data related to teacher-child interactions, teacher stress, and classroom disruptive behaviors, were graphed and analyzed. Visual analyses were completed in accordance with the four steps suggested by the WWC standards (Kratochwill et al., 2013). Analyses were supplemented by a calculation of the Percent of All Non-Overlapping Data (PAND) to determine the overlap of points between phases.

Teacher-Child Interactions. The interactions between the teacher and student were observed using the DTICS in two settings. First, the DTICS was used throughout both phases during small group instruction. Second, the DTICS was used as typical practice during the intervention to code the teacher's mastery of the TCIT skills. The data collected during classroom instruction as well as treatment sessions were graphed and analyzed to determine changes between phases. This allowed for interpretation of both the change of these interactions as well as the generalization of these positive interactions into daily instructional practices.

Positive Feedback. Positive feedback was defined as the PRIDE skills in TCIT and included Labeled Praise, Reflections, and Behavior Descriptions. Descriptive statistics for these skills are reported in Table 9. The number of PRIDE skills used per 5 minute observations was summed and graphed in Figure 1. During the treatment phase, data were collected during treatment sessions as well as during individual or small group instruction in the classroom. This second observation is referred to as the generalization setting.

Participant Triad 2 demonstrated baseline stability; no baseline trend and minimal variability were present. The level of Positive Feedback was low for Participant Triad 1 and had a baseline trend in the opposite direction of the expected behavior change. This triad's baseline was less stable due to moderate variability.

During the treatment sessions, the mean total of PRIDE skills increased from 3.71 ($SD = 3.15$) to 29.00 ($SD = 7.19$) for Triad 1 and from 5.60 ($SD = 1.14$) to 29.43 ($SD = 8.54$) for Triad 2. Both Triad 1 and 2 demonstrated an immediate shift in level. During CDI, the observed trends were in the expected direction of behavior change. The high level of PRIDE skills was maintained throughout the TDI phase of therapy for both participants, with totals greater than 25 PRIDE skills for each observation during TDI. Data for both triads demonstrate greater variability during the treatment phase than the baseline phase, particularly during the CDI phase. Variability decreased during TDI.

Patterns seen during the treatment phase differ for each triad when examining the generalization data. Intervention phase levels, trends, and variability did not demonstrate any change for the generalization setting for Triad 1. Conversely, Triad 2 saw an immediate change in level in this setting, although the change in level was smaller than the treatment sessions. Additionally, there was a more positive trend and less variability during the generalization session compared to baseline. By the end of the treatment observations, Triad 2 demonstrated equivalent levels of PRIDE skills in both settings.

In sum, visual analysis suggests a treatment effect for both Triad 1 and 2 following the implementation of TCIT during treatment sessions. An effect was observed for Triad 2 in the generalization setting, but a non-effect was seen for Triad 1 in this setting. Non-overlap statistics indicate an effect for both triads when considering the treatment setting ($PAND_1 = 100\%$; $PAND_2 = 100\%$). An equally high PAND (100%) was found for Triad 2 in the generalization setting. However, the PAND indicated a questionable effect for Triad 1 in the generalization setting ($PAND = 65.00\%$).

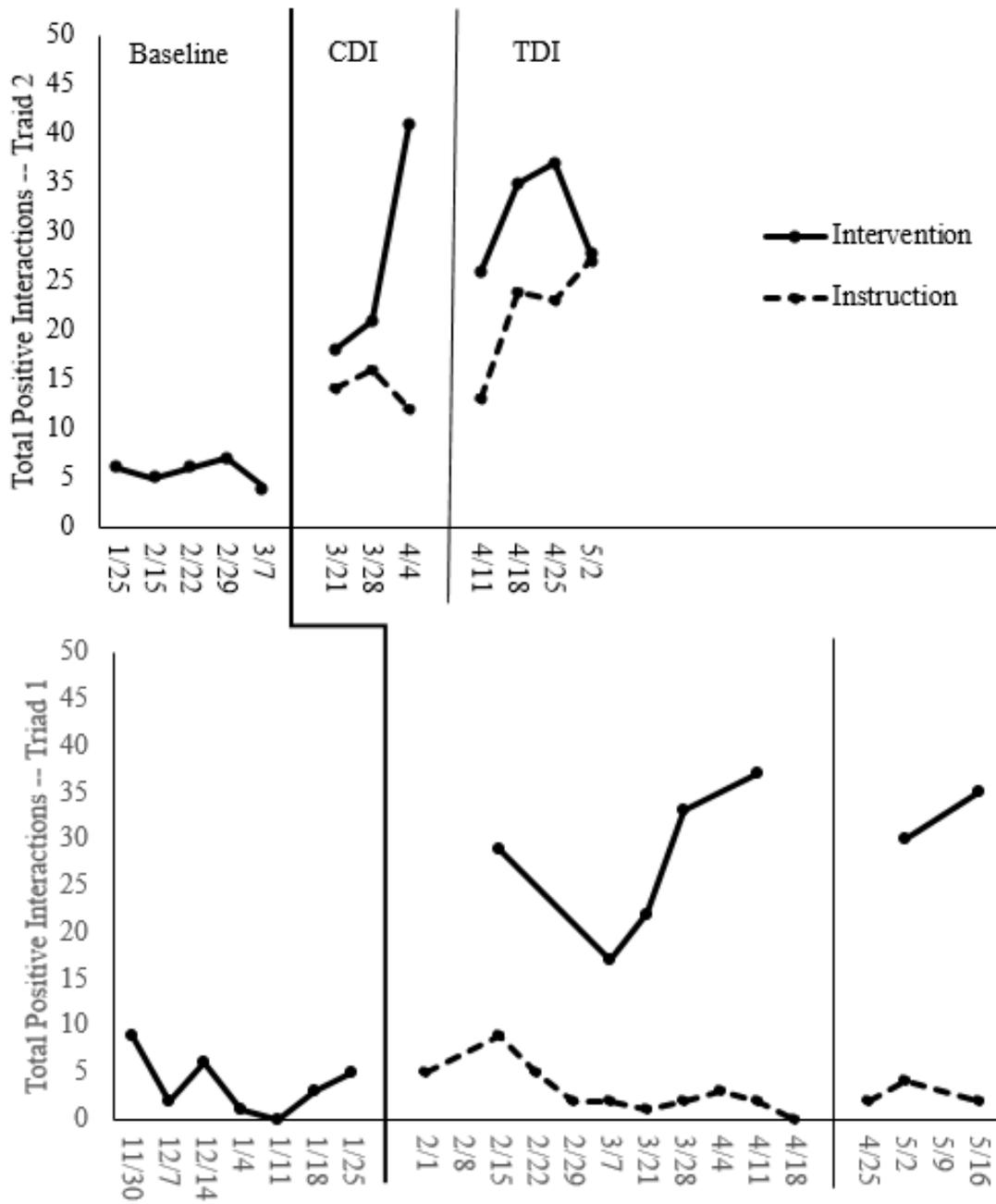


Figure 1. Multiple Baseline Results for Positive Feedback (DTICS)

Table 9

Descriptive Statistics for Dyadic Teacher-Child Interaction Coding System: PRIDE Skills

		<u>Baseline Phase</u>		<u>Treatment Phase</u>			
				<u>TCIT Sessions</u>		<u>Generalization Setting</u>	
		Mean (SD)	Range	Mean (SD)	Range	Mean (SD)	Range
Triad 1	LP	0.43 (0.79)	0.00 – 2.00	5.43 (4.24)	0.00 – 11.00	0.31 (0.48)	0.00 – 1.00
	BD	0.00 (0.00)	0.00 – 0.00	11.57 (6.85)	3.00 – 21.00	0.08 (0.28)	0.00 – 1.00
	RF	3.29 (2.93)	0.00 – 9.00	12.00 (3.42)	6.00 – 16.00	2.62 (1.98)	0.00 – 7.00
	TOT	3.71 (3.15)	0.00 – 9.00	29.00 (7.19)	17.00 – 37.00	3.00 (2.31)	0.00 – 9.00
Triad 2	LP	1.6 (1.34)	1.00 – 4.00	11.43 (5.32)	6.00 – 19.00	7.00 (4.62)	3.00 – 16.00
	BD	1.4 (0.55)	1.00 – 2.00	6.29 (3.35)	0.00 – 10.00	3.14 (2.41)	1.00 – 6.00
	RF	2.6 (0.89)	2.00 – 4.00	11.71 (1.25)	10.00 – 14.00	8.29 (5.74)	3.00 – 20.00
	TOT	5.6 (1.14)	4.00 – 7.00	29.43 (8.54)	18.00 – 41.00	18.43 (6.08)	12.00 – 27.00

Note. LP = Labeled Praises. BD = Behavioral Descriptions. RF = Reflections. TOT = Total of Positive Interactions

Negative Feedback. In TCIT, negative feedback is considered any statement that corrects or takes the lead away from the child. These “Don’t” statements include Questions, Commands, and Criticisms. Table 10 includes the descriptive statistics for the observed frequencies of negative feedback. Additionally, Figure 2 displays the summed number of negative feedback statements used per 5 minute observations in both the treatment and generalization settings.

Data indicated that Participant Triad 1 demonstrated baseline stability for negative feedback. Triad 1 had minimal variability and no baseline trend. These data for Triad 2 had moderate variability and a baseline trend in the direction of the expected behavior change, demonstrating less baseline stability.

Triad 1 demonstrated a decrease in the use of negative feedback from a mean of 12.43 ($SD = 3.15$) to 3.86 ($SD = 2.91$). A similar change in level was found for Triad 2, decreasing from a mean total of 13.2 ($SD = 6.91$) during baseline to 3.43 ($SD = 1.90$) during intervention sessions. No trend was observed for Triad 1, but an immediate change in level was present. For Triad 2, the change in level was less immediate. The trend in the direction of expected behavior change continued from baseline through the treatment phase for Triad 2. Decreased variability from baseline to treatment phase was seen for both Triads.

Data from the treatment setting indicated an effect from baseline to treatment for both participant triads. However, no effect was seen for either Triad in the generalization setting. There were no changes in level, trend, or variability observed for the total number of negative feedback statements in this setting. These findings were supported through PAND analysis. Triad 1 and 2 had Non-Overlap Indices of 92.86% and 91.67%, respectively, indicating an observed effect in the treatment setting. However, a non-effect was found in the generalization setting for Triad 1 ($PAND = 50.00\%$) and Triad 2 ($PAND = 50.00\%$).

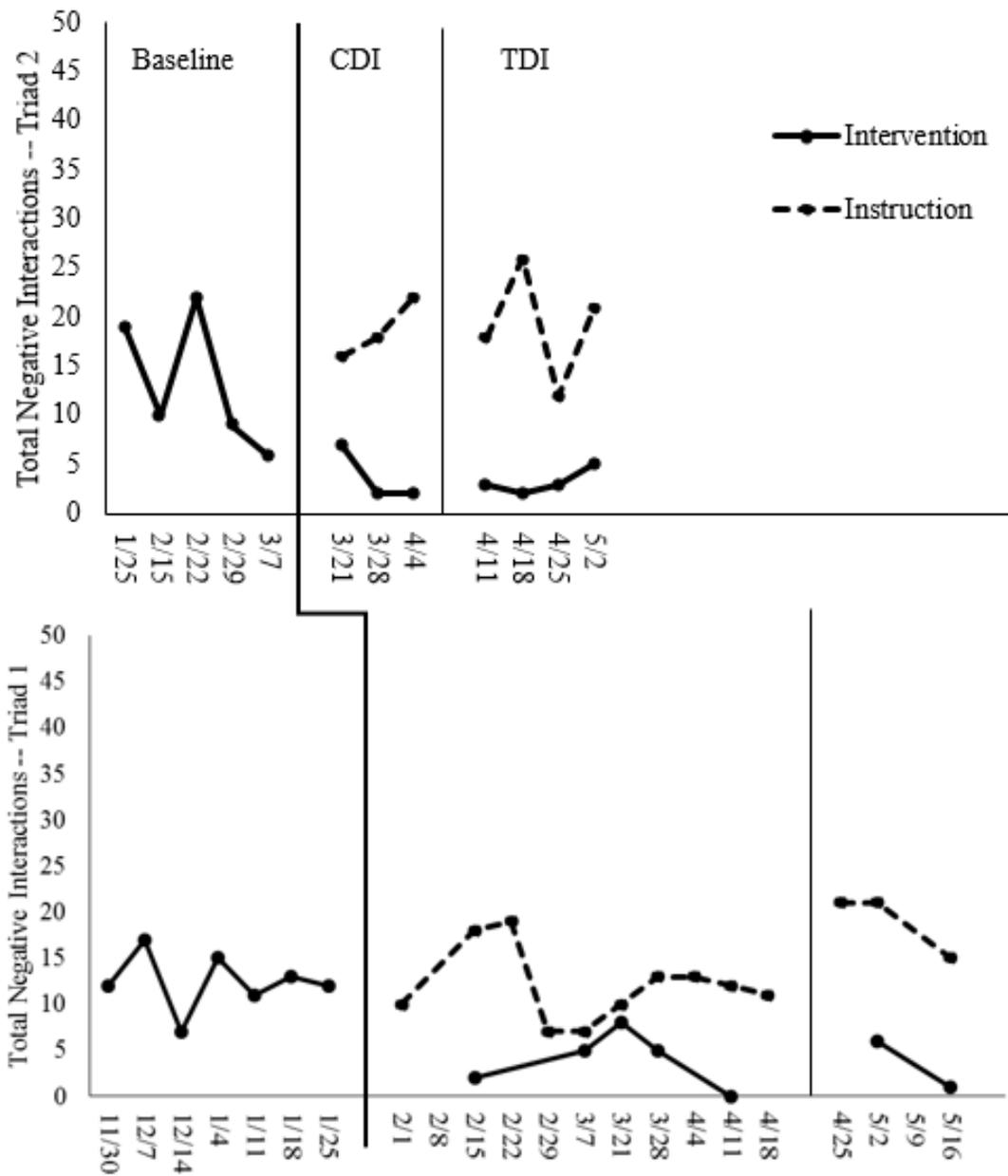


Figure 2. Multiple Baseline Results for Negative Interactions (DTICS)

Table 10

Descriptive Statistics for Dyadic Teacher-Child Interaction Coding System: Don't Skills

		<u>Baseline Phase</u>		<u>Treatment Phase</u>			
				<u>TCIT Sessions</u>		<u>Small Group Instruction</u>	
		Mean (SD)	Range	Mean (SD)	Range	Mean (SD)	Range
Triad 1	QU	5.29 (1.97)	2.00 – 7.00	2.86 (1.95)	0.00 – 5.00	4.23 (2.45)	1.00 – 8.00
	CM	6.29 (4.60)	1.00 – 13.00	1.17 (1.15)	0.00 – 3.00	8.23 (2.83)	0.00 – 13.00
	CR	0.86 (0.90)	0.00 – 2.00	0.00 (0.00)	0.00 – 0.00	1.15 (1.68)	0.00 – 5.00
	TOT	12.43 (3.15)	7.00 – 15.00	3.86 (2.91)	0.00 – 8.00	13.6 (4.86)	7.00 – 21.00
Triad 2	QU	6.6 (5.86)	1.00 – 15.00	1.57 (1.62)	0.00 – 5.00	8.57 (3.05)	3.00 – 12.00
	CM	3.4 (2.07)	0.00 – 5.00	1.42 (1.27)	0.00 – 3.00	8.86 (3.63)	3.00 – 13.00
	CR	3.2 (1.30)	2.00 – 5.00	0.43 (0.53)	0.00 – 1.00	1.57 (1.62)	0.00 – 4.00
	TOT	13.2 (6.91)	6.00 – 22.00	3.43 (1.90)	2.00 – 7.00	19.00 (4.51)	12.00 – 26.00

Note. QU = Questions. CM = Commands. CR = Criticisms. TOT = Total of Negative Interactions

Effective Commands. In addition to increasing the amount of positive teacher-child interactions, TCIT aims to train teachers to utilize effective commands. This is introduced during the second phase of therapy, TDI, thus behavior change is expected after the transition from CDI to TDI. Effective commands are termed direct commands and ineffective commands are termed indirect commands on the DTICS observation measure. Figure 3 displays the total number of direct and indirect commands for each triad during classroom observations. The descriptive statistics for these skills at each phase, including the percentage of direct commands, are presented in Table 11.

Both triads demonstrated large variability in the number of both direct and indirect commands during baseline. Additionally, there was a high level of variability for the percentage of direct commands for both triads, particularly for Triad 2 (Range = 0% -- 100%). Neither triad

demonstrated a trend towards the expected behavior change during baseline. Triad 1 had a high percentage of direct commands during baseline ($M_1 = 68\%$; $SD_1 = 0.16$). Triad 2 had a moderate percentage of direct commands ($M_2 = 46\%$; $SD_2 = 0.43$), indicating equivalent number of direct and indirect commands.

During CDI, prior to instruction in effective commands, Triad 1 decreased the percentage of direct commands. The level and variability of indirect commands increased, while the level and variability of direct commands decreased. For Triad 2, the level of both direct and indirect commands increased. The variability remained low for indirect commands, but increased for direct commands. The percentage of direct commands remained in the moderate range, but the trend for direct commands during this phase was in the expected direction of behavior change. Overall, stability was not established for either triad during baseline or CDI phases.

Following TDI Teach session, when guidelines for effective commands were presented, both triads demonstrated an immediate shift in level for both direct and indirect commands, however this immediate effect declined over the course of TDI. In addition to this immediate change, Triad 1 displayed reduced variability. Triad 2 demonstrated high variability. An increase in the percentage of direct commands was seen for this participant. Both triads had a high level of the percentage of direct commands during the TDI treatment phase ($M_1 = 66\%$, $SD_1 = 0.06$; $M_2 = 60\%$, $SD_2 = 0.30$). Taken together, the results of the visual analysis indicate a questionable response for both triads. Specifically for Triad 2, an increase in the number and percentage of direct commands was present. However, there was a high level of variability.

Non-overlap indices were calculated considering the baseline totals for indirect commands, direct commands, and percent of direct commands compared to totals in TDI. Triad 1 demonstrated no observed effect for the decrease in ineffective commands (PAND = 30%), a

questionable effect for the percent of direct commands (PAND = 60%), and an observed effect for the total of direct commands (PAND = 80%). For Triad 2, the non-overlap indices for indirect commands (PAND = 58%) and percentage of direct commands (PAND = 64%) fell in the questionable response range, while the PAND (83%) for direct commands fell in the observed effect range.

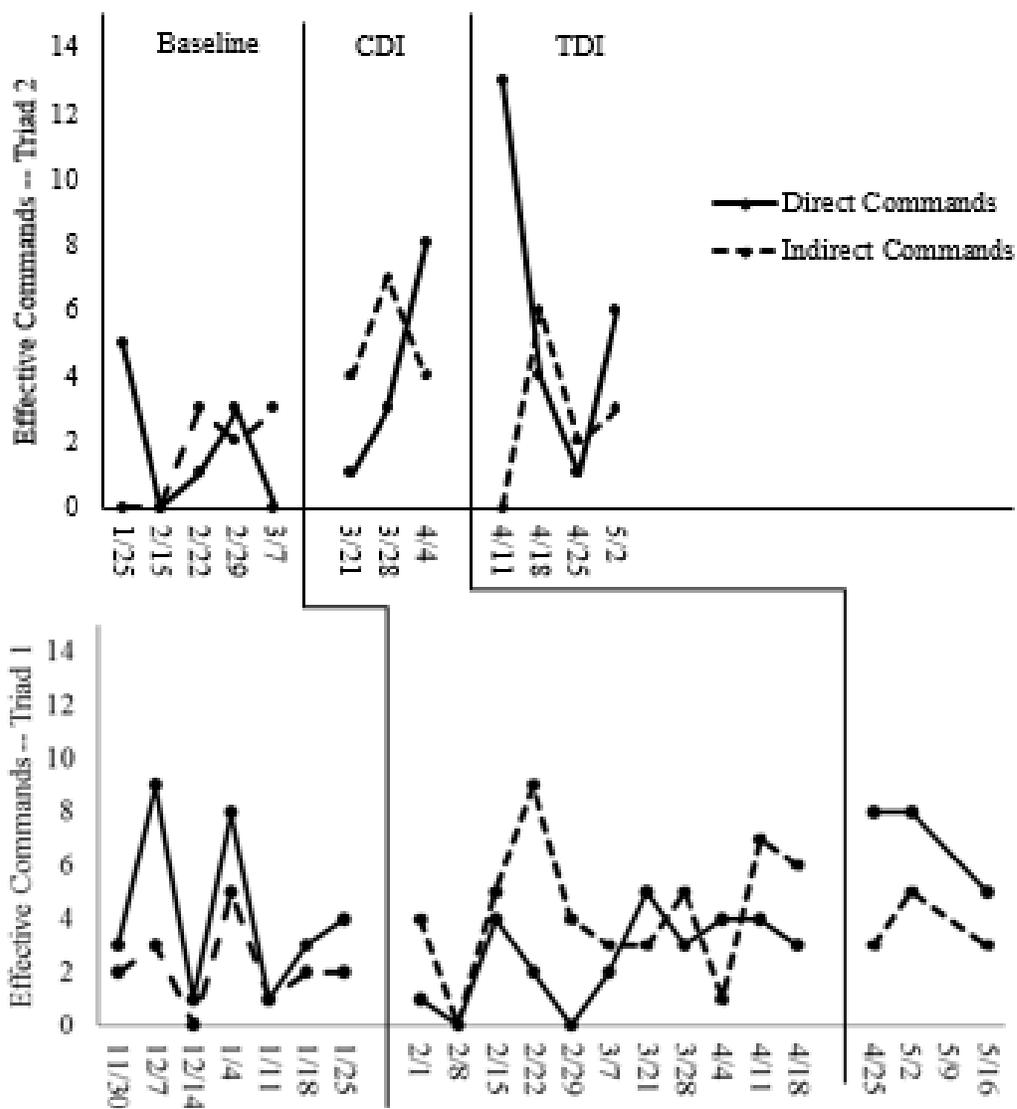


Figure 3. Multiple Baseline Results for Effective Commands (DTICS)

Table 11

Descriptive Statistics for Dyadic Teacher-Child Interaction Coding System: Commands

		<u>Baseline Phase</u>		<u>Treatment Phase</u>			
				<u>CDI</u>		<u>TDI</u>	
		Mean (<i>SD</i>)	Range	Mean (<i>SD</i>)	Range	Mean (<i>SD</i>)	Range
Triad 1	IC	2.15 (1.57)	0.00 – 5.00	4.70 (2.26)	1.00 – 9.00	3.67 (1.15)	3.00 – 5.00
	DC	4.14 (3.18)	1.00 – 9.00	2.80 (1.55)	0.00 – 5.00	7.00 (1.73)	5.00 – 8.00
	PDC	68% (0.16)	50% - 100%	37% (0.23)	0% -- 80%	66% (0.06)	62% -- 73%
Triad 2	IC	1.6 (1.52)	0.00 – 3.00	5.00 (1.73)	4.00 – 7.00	2.75 (2.50)	0.00 – 6.00
	DC	1.8 (2.17)	0.00 – 5.00	4.00 (3.61)	1.00 – 8.00	6.00 (5.10)	1.00 – 13.00
	PDC	46% (0.43)	0% -- 100%	39% (0.25)	20% - 67%	60% (0.30)	33% -- 100%

Note. IC = Indirect Commands DC = Direct Commands. PDC = Percentage of Direct Commands

Triad 2 received coaching in direct commands during TDI sessions. Thus, in addition to DTICS observations during classroom instruction, DTICS observations outlining correct TDI sequences were also conducted. These data are not available for Triad 1 because the teacher participant did not apply TDI to compliance, and thus did not receive coaching in this skill. The percentage of direct commands during baseline, classroom observations during CDI and TDI, and during TDI intervention are presented in Figure 4. As mentioned previously, there was an observable effect for the increase in the percentage of direct commands during classroom observations. During the intervention sessions, Triad 2 demonstrated an immediate change in level that was maintained throughout the intervention ($M = 97.5\%$; $SD = 5.00$). No trend and minimal variability were present in this phase. Additionally, the PAND of 92% demonstrated an observable effect.

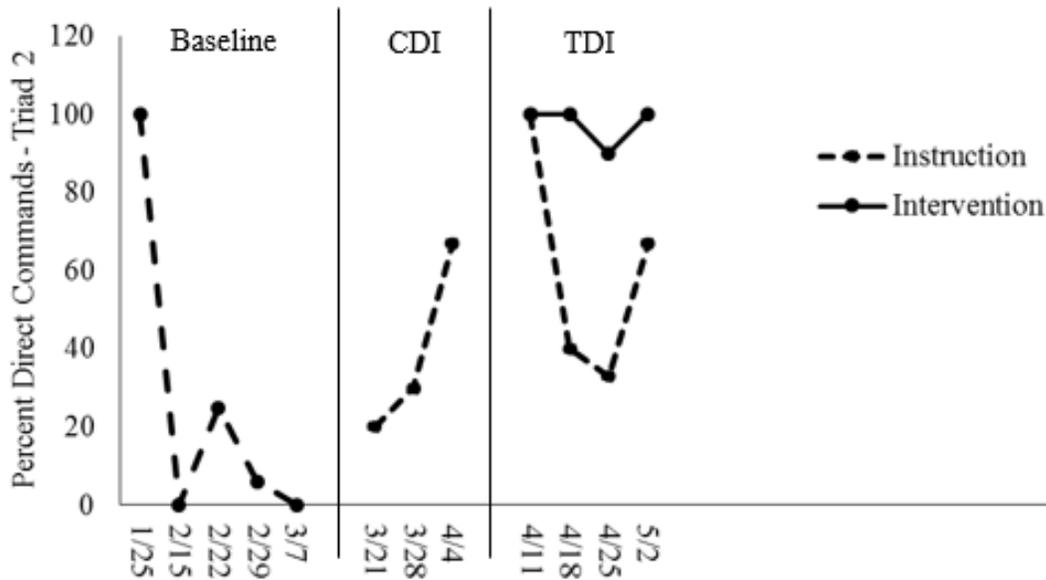


Figure 4. Results from DTICS Percentage of Effective Commands

Classroom Disruptive Behaviors. Classroom disruptive behaviors were assessed through three measures. First, the pre-post analysis of the TRF is reported. Next, the weekly teacher ratings of the students' behavior (SESBI-R Intensity Scale) are graphed and visually analyzed. Lastly, the visual analysis of SDOs related to the students' specific disruptive behaviors is reported.

TRF. At baseline, both triads indicated borderline (i.e., at or above 60) levels of disruptive behaviors as rated by teacher participants on the Externalizing Problems scale on the TRF. Participant Triad 1 was rated as 63 (PR = 90th) on this scale prior to TCIT. Of the subscales that comprise the Externalizing scale, the teacher indicated a T-score in the normal range on the Rule-Breaking Behavior sub-scale (T = 56; PR = 73rd) and borderline T-scores on the Aggressive Behavior (T = 65; PR = 93rd) sub-scales. Following TCIT, Teacher 1 reported decreased Externalizing Problems for this student. These ratings indicated sub-clinical ratings of behavior

not only on Externalizing Problems (T = 58; PR = 79th), but also the Rule-Breaking Behavior (T = 53; PR = 62nd) and Aggressive Behavior (T = 59; PR = 81st) sub-scales.

The Externalizing Problems T-Score for Participant Triad 2 fell in the clinically significant range (T = 68; PR = 97th) prior to the intervention, with the Rule-Breaking Behavior sub-scale skill in the borderline range (T = 64; PR = 92nd) and the Aggressive Behavior sub-scale in the clinically significant range (T = 68, PR = 97th). After TCIT, the ratings of Aggressive Behaviors increased (T = 75; PR = >97th) and the Rule-Breaking Behaviors remained the same (T = 64; PR = 92nd), resulting in an increased Externalizing Behavior Scale (T = 72; PR = >98th).

SESBI-R Intensity Scale. Descriptive statistics (Table 12) and graphical displays (Figure 5) for the SESBI-R Intensity Scale are reported below. Both triads had baseline stability, as demonstrated in the neutral baseline trends and lack of variability. The mean T-score during baseline were in the clinical range for Triad 2 ($M_2 = 60.60$), and in the at risk range for Triad 1 ($M_1 = 58.29$).

An observed effect was not evident on this measure with Participant Triad 1. Although a slight decrease in variability was present during CDI, the teacher's ratings also demonstrated a slight increasing trend in the opposite direction of the expected behavior change. During TDI, the last data point indicated a decrease, but the level was still higher than baseline levels of behavior ratings. Non-overlap statistics also support that TCIT did not have an effect on this teacher's ratings (PAND = 50%). An effect for Triad 2 was delayed until after the implementation of TDI. During CDI, no change in level, trend, or variability was observed. The last three data points indicate a change in level and negative trend, suggesting expected behavior change. Furthermore, following the implementation of TDI, the teacher ratings of student behavior reached sub-clinical

levels ($T < 55$). The PAND for Triad 2 was 66.67%, which indicates a questionable response.

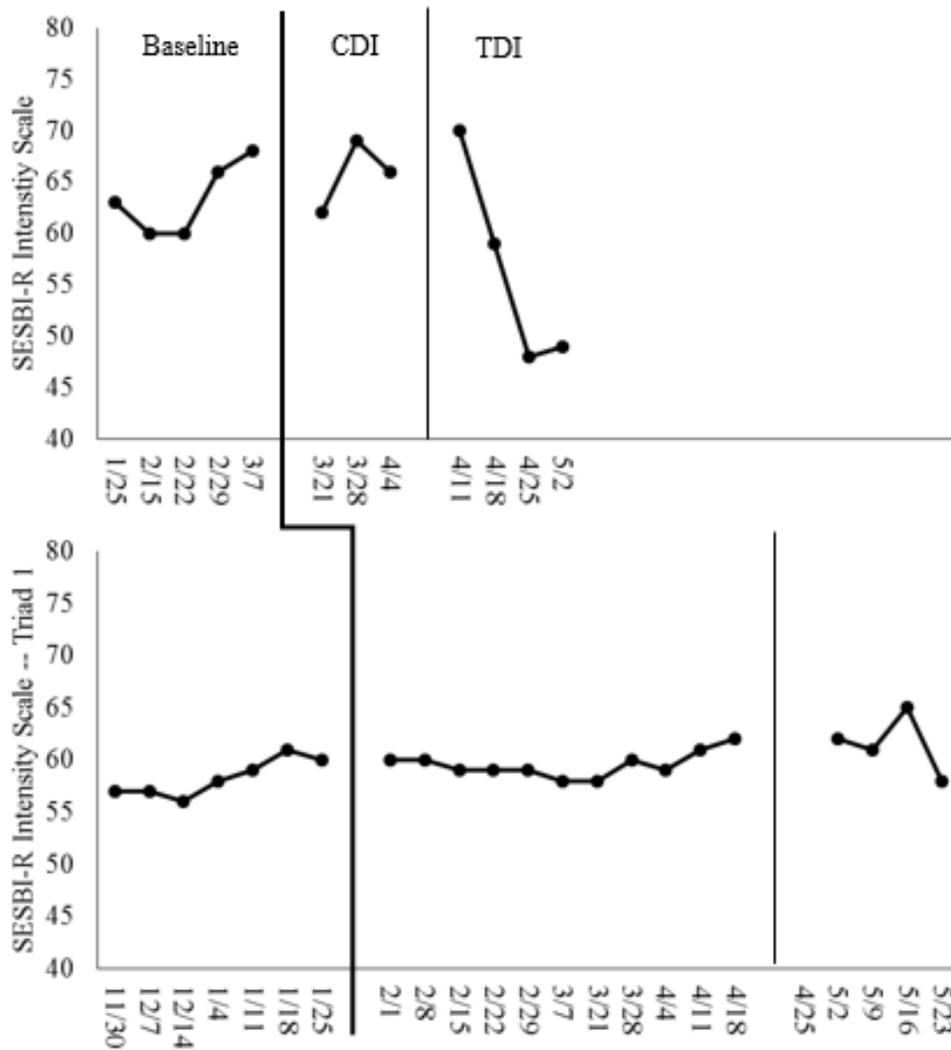


Figure 5. Multiple Baseline Results for SESBI-R Intensity Scale

Table 12

Descriptive Statistics for SESBI-R Intensity Scale

	Baseline Phase		Treatment Phase	
	Mean (SD)	Range	Mean (SD)	Range
Triad 1	58.29 (1.80)	57.00 – 61.00	60.07 (1.91)	58.00 – 65.00
Triad 2	60.60 (3.44)	55.00 – 64.00	60.43 (9.00)	48.00 – 70.00

Systematic Direct Observation. The total of disruptive behaviors observed for each student was summed to obtain the totals in Table 13 and graphed in Figure 6. The data for Triad 1 demonstrated baseline stability with a neutral trend and minimal variability. Variability in data for Triad 2 was extreme due to one observation with two instances of disruptive behaviors. Other than that single data point, student 2 displayed a high level of disruptive behavior with a baseline trend in the opposite direction of the expected behavior change.

Following implementation, the observed trend for Triad 1 did not indicate the expected change in behavior. Additionally, an increase in variability and no change in level were found. Conversely, Triad 2 demonstrated patterns of expected change. Specifically, the mean total number of disruptive behaviors decreased from 17.40 ($SD = 16.35$) in the baseline phase to 4.57 ($SD = 7.25$). A negative trend and reduced variability was observed for this participant triad. Thus, Triad 1 demonstrated a non-effect and Triad 2 demonstrated an effect for this variable.

Non-overlap indices were calculated for both triads. Similar to the visual analysis, the PAND for Triad 1 (59.09%) found a questionable response. The PAND for Triad 2 was 83.33%, indicating an observed effect.

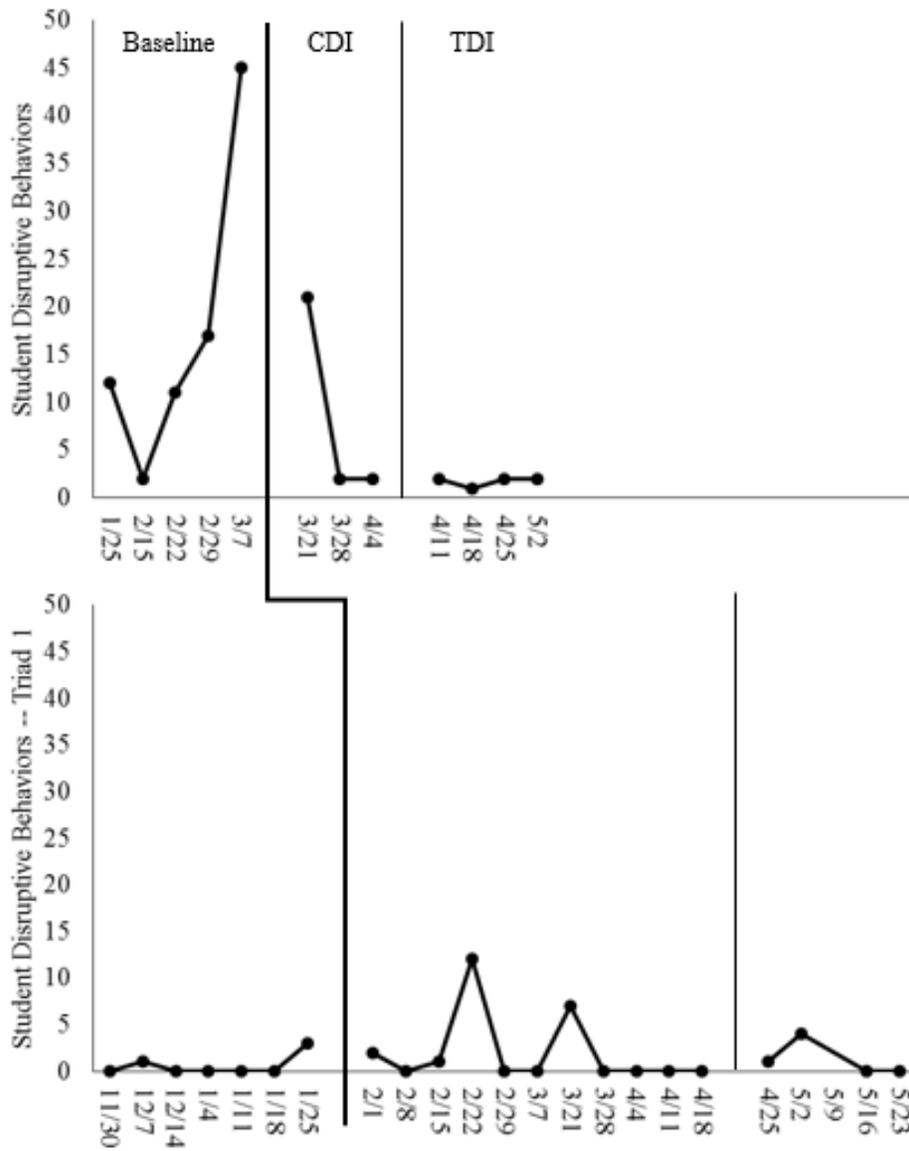


Figure 6. Multiple Baseline Results for Systematic Direct Observation of Student Behavior

Table 13

Descriptive Statistics for Systematic Direct Observation

	Baseline Phase		Treatment Phase	
	Mean (SD)	Range	Mean (SD)	Range
Triad 1	0.86 (1.21)	0.00 – 3.00	1.80 (3.45)	0.00 – 12.00
Triad 2	17.40 (16.35)	2.00 – 45.00	4.57 (7.25)	1.00 – 21.00

Teacher Stress. Data related to teacher stress are reported in Table 14 and Figure 7. The mean T-score for Triad 1 was 56.42 ($SD = 2.88$), while the mean T-score for Triad 2 was 63.00 ($SD = 3.00$). Baseline data for both participants were stable; minimal variability and neutral baseline trends were observed.

Shifts in observed trends or variability from the baseline phase to the treatment phase were not found for either participant triad. Both Triad 1 and Triad 2 demonstrated a minimal change in level following the implementation of intervention. No changes in level were observable for Triad 1 throughout CDI and TDI. However, a slight downward trend was seen throughout the intervention, particularly at the end of the intervention. A slight decrease in trend was seen for Triad 2 at the end of TDI. However, given that these T-scores overlap with those in baseline, confidence cannot be placed in these findings being a result of the intervention. The PAND for Triad 1 indicated an effect (75.00%). Triad 2 had a PAND (50.00%) that suggested no observed effect.

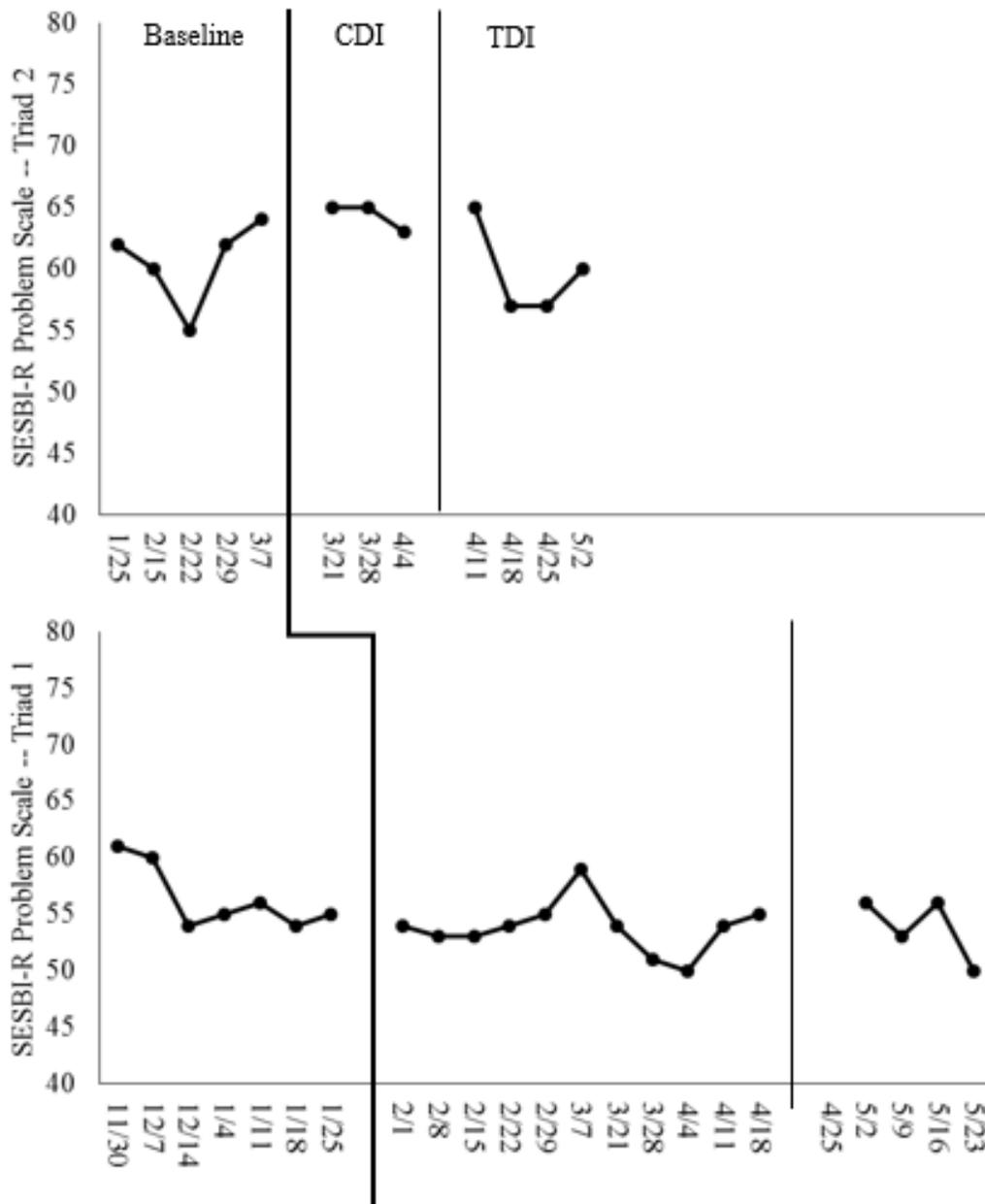


Figure 7. Multiple Baseline Results for SESBI-R Problem Scale

Table 14

Descriptive Statistics for SESBI-R Problem Scale

	<u>Baseline Phase</u>		<u>Treatment Phase</u>	
	Mean (<i>SD</i>)	Range	Mean (<i>SD</i>)	Range
Triad 1	56.42 (2.88)	54.00 – 61.00	53.80 (2.37)	50.00 – 59.00
Triad 2	63.00 (3.00)	60.00 – 66.00	61.71 (3.68)	57.00 – 65.00

Masked Visual Analysis

The masked visual analysis was completed by an expert in single-case design. He was not involved in the implementation of intervention and blind to the participants' random assignment. The analyst was told that participants were assigned to 3, 5, or 7 weeks of baseline. To avoid contamination across variables, the analyst was provided masked graphs of all the continuous depend variables for each participant triad. Of the six possible combinations, the analyst correctly identified the assignments for both participants on the first specification. This increases the confidence that the null hypothesis can be rejected, and the effects seen are a result of the intervention implemented as opposed to chance.

Regression Analysis

Regression models were calculated for the dependent variables of interest that were visually analyzed with continuous data, including teacher-child interactions, classroom disruptive behaviors, and teacher stress. Decisions based on the expected pattern of change were made to determine whether the two phases, CDI and TDI, were considered separately and whether changes in trend were included. These determinations are outlined for each variable. Regression coefficients, confidence intervals, and confidence intervals assuming autocorrelation ($\phi = 0.2$) are reported. Treatment effects, or the phase regression coefficient, are considered

significant if the more conservative confidence interval, when autocorrelation is assumed, does not include zero.

Teacher-Child Interactions. The teacher-child interactions observed include positive feedback, negative feedback. Frequencies from the DTICS measures were analyzed for the treatment effects for positive and negative feedback. For the effective commands, the percent of direct commands was used to calculate the regression coefficients. Because different results were expected in either phase, effects from CDI and TDI were compared to baseline separately for each of these three variables. It should be noted that models were not run for the frequencies from the generalization setting for positive or negative feedback.

Positive Feedback. For this variable, a positive increase in level and trend was expected from baseline to CDI. This increase in level should be maintained in TDI, but was not expected to demonstrate a trend. Therefore, the interaction term was included in the regression model for the effect of CDI, but not TDI. Table 15 displays the regression coefficients.

A treatment effect from baseline to CDI was found for both participant triads. Specifically, Triad 1 had an estimated effect of 30.29 ($SE = 4.26$). We are 95% confident CDI increased the teacher's use PRIDE skills between 20.64 and 39.93 total statements assuming independent error. When considering the effect with a more conservative approach ($\phi = 0.2$), we are 95% that the treatment effect was between 18.78 and 41.79. Similarly for Triad 2, a treatment effect was estimated at 32.57 ($SE = 3.32$). Confidence intervals suggested a significant increase in PRIDE skills both when considering independent error (95% CI [24.03, 41.10]) and autocorrelation (95% CI [22.71, 42.43]). These effects were maintained in TDI for both Triad 1 ($B = 28.79$, $SE = 2.57$, 95% CI 21.93, 35.64) and Triad 2 ($B = 25.90$, $SE = 2.41$, 95% CI [19.10, 32.70]) when considering autocorrelation.

Table 15

Regression Coefficients for Positive Feedback (DTICS: PRIDE Skills)

	Parameter	<u>CDI</u>		<u>TDI</u>	
		Estimate	Standard Error	Estimate	Standard Error
Triad 1	Intercept	3.71	1.87	3.71	1.21
	Slope	3.20	1.56	N/A	N/A
	Phase	30.29*	4.26	28.79*	2.57
Triad 2	Intercept	5.60	1.46	5.60	1.61
	Slope	11.50	2.31	N/A	N/A
	Phase	32.57*	3.32	25.90*	2.41

*Significant treatment effect with autocorrelation at $\phi = 0.2$.

Negative Feedback. Negative feedback skills were expected to demonstrate a decreasing level and trend during CDI. Similar to positive feedback, a trend was not expected during TDI, and thus no interaction term was added for that phase. Results are listed in Table 16.

The regression model for Triad 1 indicated a treatment effect of -9.23 ($SE = 2.82$) for the reduction in negative feedback from baseline to CDI. Assuming independent error, we are 95% confident that the effect at the end of CDI was between -15.60 to -2.86. A significant decrease in negative feedback was also found utilizing autocorrelation, 95% CI [-16.86, -1.60]. When considering a change in level from baseline to TDI, the regression analysis suggested a treatment effect was found for this triad, $B = -8.93$, $SE = 1.21$, 95% CI [-15.90, -1.95].

A significant treatment effect was not found for Triad 2 when considering level and trend for the change from baseline to CDI ($B = -12.03$, $SE = 6.35$, 95% CI [-30.75, 6.68]). An effect was found for this triad from baseline to TDI when assuming independent error, $B = -9.95$, $SE = 3.55$, 95% CI [-18.33, -1.57]. However, when autocorrelation was considered, the decrease in negative feedback was no longer significant, 95% CI [-19.95, 0.05].

Table 16

Regression Coefficients for Negative Feedback (DTICS: Don't Skills)

	Parameter	<u>CDI</u>		<u>TDI</u>	
		Estimate	Standard Error	Estimate	Standard Error
Triad 1	Intercept	12.43	1.24	12.43	1.21
	Slope	-0.40	1.03	N/A	N/A
	Phase	-9.23*	2.82	-8.93*	2.58
Triad 2	Intercept	13.20	2.79	13.20	2.36
	Slope	-2.50	4.42	N/A	N/A
	Phase	-12.03	6.35	-9.95**	3.55

*Significant treatment effect with autocorrelation at $\phi = 0.2$. **Significant treatment effect assuming independent error.

Effective Commands. Because training in the use of effective commands was not implemented until TDI, only one regression model was run per participant triad. These models compared the change in level for the percentage of direct commands from baseline to TDI. Teacher 1 did not incorporate effective commands in the teaching sessions, therefore the percentages from the instructional setting was used for both participants. See Table 17 for the regression coefficients.

Regression analyses did not find a treatment effect for either participant triad. The 95% confidence interval without autocorrelation ranged from -24.47 to 21.04 for Triad 1 and -37.43 to 83.43 for Triad 2. With autocorrelation of $\phi = 0.2$, Triad 1 had a 95% CI of -28.45 to 25.03 and Triad 2 had a 95% CI of -49.37 to 95.37.

Table 17

Regression Coefficients for Percentage of Direct Commands

	Parameter	<u>TDI</u>	
		Estimate	Standard Error
Triad 1	Intercept	67.71	5.40
	Phase	-1.71	9.87
Triad 2	Intercept	37.00	17.04
	Phase	23.00	25.55

Note. No significant findings

Classroom Disruptive Behaviors. Two measures of classroom disruptive behavior were measured continuously, teacher ratings on the SESBI-R Intensity Scale and SDOs in the classroom. Regression models for both of these measures were run separately for CDI and TDI. Furthermore, both trend and level were considered at both phases. It was expected that student disruptive behavior would slightly decrease over the course of CDI, then demonstrate a larger negative trend during TDI. The treatment effect was centered around the final data point for this variable.

SESBI-R Intensity Scale. Table 18 outlines the regression coefficients for the models run on the SESBI-R Intensity T-Scores. Neither phases resulted in a significant reduction of teacher ratings of behavior for Participant Triad 1. With autocorrelation, the estimate for baseline to CDI was 1.94 ($SE = 0.99$) with a 95% CI of -0.68 to 4.56. For baseline to TDI, the estimate was 2.01 ($SE = 2.08$). This treatment effect did not demonstrate significance both when assuming independence (95% CI [-2.79, 6.82]), as well as adjusting for autocorrelation (95% CI [-3.63, 7.66]). Participant Triad 2 also did not demonstrate a significant change in behavior as result of CDI, $B = 4.27$, $SE = 3.75$, 95% CI [-6.78, 15.31]. Conversely, this triad demonstrated an effect estimated at -18.00 following TDI, indicating that, by the end of treatment, the T-score of

Teacher 1's ratings of problem behaviors reduced by 18 as a result of TCIT. With assuming independence, we are 95% confident that this estimate falls in the range of -27.21 to -8.79. A 95% CI of -28.96 to -7.04 was found with the more conservative analysis.

Table 18

Regression Coefficients for SESBI-R Intensity Scale

	Parameter	<u>CDI</u>		<u>TDI</u>	
		Estimate	Standard Error	Estimate	Standard Error
Triad 1	Intercept	58.29	0.55	58.29	0.86
	Slope	0.14	0.14	-0.80	1.02
	Phase	1.94	0.99	2.01	2.08
Triad 2	Intercept	63.40	1.65	63.40	1.77
	Slope	2.00	2.61	-7.40	1.77
	Phase	4.27	3.75	-18.00*	3.76

*Significant treatment effect with autocorrelation at $\phi = 0.2$.

Systematic Direct Observation. The regression coefficients for the observations of student disruptive behavior are displayed in Table 19. Similar to teacher ratings, a treatment effect was not found for Triad 1. Analysis of the change from baseline to CDI indicate that the estimate of effect ($B = 0.06$, $SE = 2.17$) had a 95% CI of -4.57 to 4.69 without autocorrelation and -5.67 to 5.80 with autocorrelation. Additionally, no treatment effect was found during TDI ($B = -0.37$, $SE = 1.30$, 95% CI without autocorrelation [-3.37, 2.62], 95% CI with autocorrelation [-3.88, 3.16]). Triad 2 also did not demonstrate a significant treatment effect for either phase. From baseline to CDI, a 95% CI from -57.84 to 20.71 was found when independence was assumed and a range from -63.97 to 26.84 when it was not ($B = -18.57$, $SE = 15.28$). Following the implementation of TDI, the estimate of effect ($B = -15.50$, $SE = 12.67$) had a conservative 95% CI of -52.45 to 21.45.

Table 19

Regression Coefficients for SDO of Disruptive Behavior

	Parameter	<u>CDI</u>		<u>TDI</u>	
		Estimate	Standard Error	Estimate	Standard Error
Triad 1	Intercept	0.57	1.21	0.57	0.53
	Slope	-0.27	0.31	-0.70	0.63
	Phase	0.06	2.17	-0.37	1.30
Triad 2	Intercept	17.40	6.72	17.40	5.97
	Slope	-9.50	10.63	0.10	5.97
	Phase	-18.57	15.28	-15.50	12.67

Note. No significant findings.

Teacher Stress. No significant treatment effects were found for teacher stress for either participant triads. Results are displayed in Table 20 below. For Triad 1, the 95% CI without autocorrelation ranged from -6.72 to 0.86 for CDI and -10.88 to 1.02 for TDI. If autocorrelation of $\phi = 0.2$ was assumed, the 95% CI ranged from -7.62 to 1.76 for CDI and -11.90 to 2.04 for TDI. With assuming independent errors, Triad 2 had a 95% CI from -5.35 to 10.82 for CDI and -11.5 to 5.31 for TDI. We are 95% confident that the treatment effect for CDI was -6.58 to 12.05 and -1.39 to 3.83 for TDI when assuming autocorrelation.

Table 20

Regression Coefficients for SESBI-R Problem Scale

	Parameter	<u>CDI</u>		<u>TDI</u>	
		Estimate	Standard Error	Estimate	Standard Error
Triad 1	Intercept	56.43	0.99	56.43	1.06
	Slope	-0.06	0.25	-1.50	1.26
	Phase	-2.93	1.78	-4.93	2.58
Triad 2	Intercept	60.60	1.38	60.60	1.62
	Slope	-1.00	2.19	-1.50	1.62
	Phase	2.73	3.15	-3.10	3.44

Note. No significant findings.

Disruptive Home Behavior

Disruptive behavior in the home was monitored on a probe assessment schedule utilizing the ECBI Intensity Scale at four points in the data collection. The T-Scores are graphed and displayed in Figure 9 below. Parent ratings of behavior for Participant Triad 1 ranged from 43 to 46 ($M = 44.25$, $SD = 1.26$). All of these T-scores were below the at-risk range for clinical significance and minimal variability was present. For Participant Triad 2, ranged from 55 to 47 ($M = 51.5$, $SD = 3.32$). Minimal variability was observed and all T-scores were below the at-risk range. These findings suggest that changes in disruptive behaviors at home did not contribute to changes in behavior observed in the classroom.

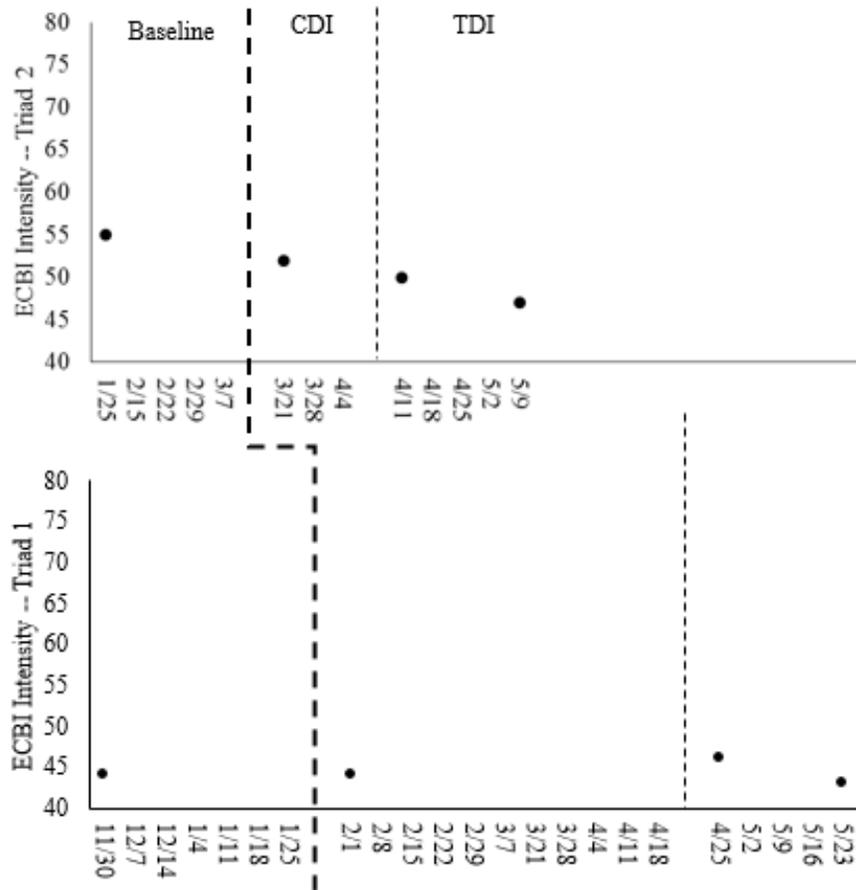


Figure 8. Results of ECBI Intensity Scale

Student-Teacher Relationships

Data related to student-teacher relationships were collected on a probe assessment schedule. Four administrations of the STRS-SF took place during the study. The totals for both participant triads on the Closeness and Conflict scales are graphed in Figure 9.

Results for Triad 1 indicate that the rating of Closeness between the teacher and student increased slightly from baseline ($M = 23.5$; $SD = 1.73$) to treatment ($M = 24.5$; $SD = 0.70$). The teacher ratings of Conflict prior to the intervention were low ($M = 19.50$; $SD = 2.12$), and demonstrated an initial increase, followed by a large decrease in the intervention phase ($M =$

16.00, $SD = 0.71$). Ratings of Closeness for Triad 2 increased from the baseline phase ($X = 30.5$; $SD = 0.71$) to the treatment phase ($X = 33.00$; $SD = 0.00$). Opposite to the expected change in behavior, the teacher's ratings on the Conflict scale also increased throughout the intervention phase from an average of 27.00 ($SD = 1.41$) to 30.00 ($SD = 1.41$).

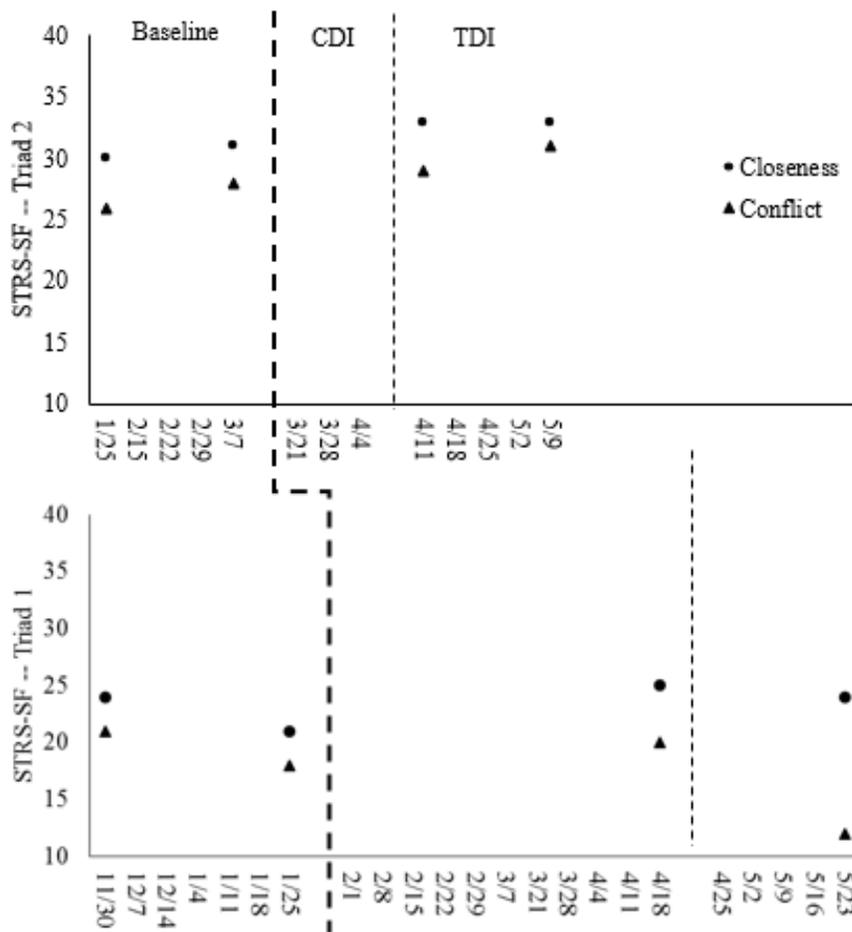


Figure 9. Results of STRS-SF; Closeness and Conflict Scales

Treatment Acceptability

The teacher participant's satisfaction with the intervention was assessed through the TEI administered at the end of data collection. Teacher participant 1 had an overall rating of 3.89

with a standard deviation of 0.33; her ratings on individual items ranged from 3 to 4. The mean for Teacher Participant 2 was 3.22 with a standard deviation of 1.09. Individual item ratings ranged from 2 to 5. These ratings indicated that both teachers found the intervention acceptable.

Summary of Results

Table 21 summarized the effects seen for variables of interest in the current study that were examined by multiple analyses. An overall effect was indicated in four conditions: 1) when both triads demonstrated an observed effect according to visual and regression analyses, 2) when one triad has an observed effect in both analyses and the other triad has one effect and a questionable effect, 3) when both triads have one effect and one questionable effect, or 4) when three analyses indicated an effect for the variable. Results indicate that TCIT was implemented with fidelity by both the therapists and teachers. Additionally, TCIT increased the number of positive feedback skills while decreasing the teachers' use of negative feedback. An observed effect was present for Teacher 1's use of effective commands, and a partial effect for Teacher 2. According to three measures, TCIT did not demonstrate an observed effect on Student 1's behavior. An effect was seen for Student 2 according to the SESBI-R Intensity Scale and SDO. Neither participant triad indicated a decrease in stress after the implementation of TCIT. For teacher-child relationships, both triads increased in closeness, but only Triad 1 decreased in ratings of conflict. Lastly, both teachers rated TCIT as an acceptable treatment.

Table 21

Summary of Observed Effects

Variable	Measure	<u>Triad 1</u>		<u>Triad 2</u>		Overall Effect
		Visual Analysis	Regression Analysis	Visual Analysis	Regression Analysis	
Positive Feedback	DTICS	X	X	X†	X	X
Negative Feedback	DTICS	X	X	X	Q	X
Effective Commands	DTICS	Q		X†		
Disruptive Behaviors (School)	SESBI-R Intensity Scale (Eyberg & Pincus, 1999)			X	X	
	Systematic Direct Observation			X		
Teacher Stress	SESBI-R Problem Scale (Eyberg & Pincus, 1999)	Q				

Note. X = Observed Effect; Q = Questionable or Partial Effect; Blank = No Observed Effect. † denotes that teacher skill was generalized to instructional setting.

Chapter Five:

Discussion

Problem behaviors in early childhood can lead to long-lasting negative outcomes (Bradshaw et al., 2000; Egger & Angold, 2006), thus parents and teachers should be involved in early intervention for these children (Hamre & Pianta, 2005; Stormont, 2002). PCIT is an evidence-based intervention to treat disruptive behaviors in the home (Eyberg, 1999), but the literature does not conclusively indicate whether gains in behavior outcomes from PCIT are generalized to the classroom environment (Funderburk et al., 2009). Literature on a school-based variant of PCIT, Teacher-Child Interaction Training (TCIT), is emerging. Thus, research is needed to determine if TCIT can improve disruptive behaviors in the classroom and thus provide an important complimentary intervention to PCIT for children with recalcitrant problems at school. The purpose of this study was to contribute to the literature on TCIT as an intervention with young children who exhibit disruptive behaviors. A model of TCIT was implemented as an intensive intervention for two kindergarten students who successfully completed PCIT, but were still exhibiting problem behaviors at school. A non-concurrent multiple baseline measured the effect of TCIT on various outcomes for these two student-teacher-parent triads. First, the integrity of implementation was investigated. Variables of interest included the teacher-child interactions, the students' disruptive behaviors in the classroom, teacher-child relationships, and teacher stress. Treatment acceptability was also assessed. This chapter summarizes and discusses the results as well as the limitations, directions for future research, and implications for practice.

Research Question One

The first research question investigated the extent to which TCIT was implemented with integrity. Both integrity of implementation by the therapist and the teacher participants were investigated.

Therapist Implementation Integrity. Results from fidelity checklists found that TCIT was implemented with integrity by both therapists. As mentioned previously, therapists were PCIT Certified Therapists with greater than 18 months of experience implementing PCIT as well as experience consulting with teachers and implementing behavior interventions in schools. The therapist for Triad 2 was the PI for the current study, thus a high level of integrity was expected. For Triad 1, the graduate student underwent extensive training in the intervention protocol. Additionally, the PI was available to the therapist to answer questions and help problem-solve concerns. The therapist and PI communicated weekly to discuss the progress with the intervention. The hypothesis related to therapist implementation was confirmed; both therapists implemented TCIT with over 90% integrity. Past research is not available to compare with these findings.

Although the therapist implemented the intervention with integrity according to fidelity checklists, multiple adaptations were made to the proposed protocol due to Teacher 1's request. In this model, the Sit and Watch procedure was created collaboratively, including the target behaviors. Teacher 1 opposed utilizing Sit and Watch for non-compliance because this was a low frequency behavior, which was supported by data from the SDOs. She mentioned that this student's non-compliance was mostly related to work completion. As the function of this behavior is work avoidance, the team agreed that Sit and Watch may not be appropriate. Teacher 1 utilized Sit and Watch for aggressive behaviors. However, many steps on the fidelity checklists

were marked as Not Applicable because they applied to direct compliance training. These N/A steps were not included in the total, as opposed to being considered indications of low integrity.

Teacher Implementation Integrity. The findings of the present study indicate that both teacher participants implemented special play with a high level of integrity ($M = 88.89\%$). Teacher 2 implemented special play sessions with more fidelity than Teacher 1. These percentages of integrity are considered high enough to suggest that the teachers met the expectations of implementation for this portion of the intervention.

This overall percentage of integrity exceeded the hypothesized level of integrity (i.e., less than 80%). One past study implemented special play but did not report integrity data of the daily practice sessions (McIntosh et al., 2009). Lyon and colleagues (2009) assigned weekly reflection sheets as a measure of integrity and found that teachers had difficulty completing this homework assignment ($M = 37.5\%$). Differences in the definition of integrity and the nature of the homework assignments may have yielded these divergent results. Given the collaborative nature of this model of TCIT, the therapist and teacher agreed upon a goal for the number of days of special play between sessions. Additionally, because every therapy session included at least 5 minutes of CDI, teachers were not expected to complete this homework on days of the therapy sessions. This left 4 potential days of special play. Both teachers had a scheduling conflict on one day of the week, and agreed to 3 days per week of special play. A high level of integrity may have been more easily obtainable because teachers were not asked to complete homework every day. Additionally, although special play requires more resources than a reflection worksheet, the task may have been more meaningful for the teachers and thus increased the likelihood of completion.

Lastly, the individualized and collaborative nature of the current study may have increased the teachers' buy-in to completing the homework assignments. Therapists dedicated time, prior to the implementation to CDI, to problem-solving barriers to special play. The discussion of time and resources may have resulted in higher levels of fidelity, as supported by research on consultation models (Sheridan et al., 2006).

It should be noted that although Teacher 1 had a high level of integrity of implementation of special play, she had a large number of absences for therapy sessions. Specifically, four CDI sessions and three TDI sessions were missed. Of these seven missed sessions, two were due to child absence and five were due to teacher absence or schedule conflict. In addition to the seven missed sessions, the therapist also accommodated the teacher multiple times by coming in for sessions on a different day of the week. Additionally, although the teacher stated that she could dedicate 15 minutes with the therapist, sessions typically lasted 7-10 minutes. This resulted in less coaching and feedback. Attempts were made to problem-solve time concerns, but no solutions were agreed upon. The teacher reported enjoying special play. She was less accepting of TDI. Of note, student 1 also had an aide in the classroom. The teacher stated that the aide often intervened if any behavior issue arose. It is possible that the general education teacher did not feel responsible for the student's behavior management, and thus displayed less engagement in the therapy, particularly during TDI. Despite the possible explanations related to buy-in, Teacher 1 had high ratings of treatment acceptability on the TEI ($M = 3.89$). This may indicate that the teacher's poor attendance was more related to demands on the teacher's time as opposed to commitment to the therapy.

Research Question Two

Past research mostly supports the effect of TCIT on teacher-child interactions (Lyon et al., 2009; McIntosh et al., 2000; Tiano & McNeil, 2006). Increasing positive interactions and decreasing negative interactions between the teacher and student is a primary goal of this intervention. TCIT achieves this aim by instructing teachers in skills for providing positive feedback and reducing negative feedback. Because corrective feedback cannot be completely avoided, TCIT also provides training in the use of effective commands. This study examined changes in teachers' feedback to their students.

Positive Feedback. Consistent with past research (Lyon et al., 2009; McIntosh et al., 2000; Tiano & McNeil, 2006), results from this study found an increase in teacher participants' use of positive feedback, according to both visual and regression analyses. Teachers had a large treatment effect for their use of PRIDE skills following CDI. Teacher 1 demonstrated the largest increase in her use of Behavior Descriptions and Reflections, while Teacher 2 most significantly increased her use of Labeled Praise and Reflections. Both teachers reached a total of 30 PRIDE skills during the 5 minute CDI coding to transition to TDI. Moreover, both participants demonstrated a slight decrease in positive feedback after the introduction of TDI, yet this is typical in past research (Lyon et al., 2009). Additionally, both teachers maintained a much higher level of PRIDE skills during TDI than was present during baseline. Given that 10 of each skill, or 30 total PRIDE skills comprise the mastery criteria, findings suggest that the teachers were able to master these play therapy skills as a result of participation in TCIT. This was the main expected outcome of the therapy and indicates that TCIT led to changes in these teachers' interactions.

It should be noted that Teacher 1 did not meet the predetermined mastery criteria (10 behavior descriptions, 10 labeled praises, 10 reflections), as described in Chapter 3. This is not considered a limitation to the current study because the teacher achieved greater than 30 total PRIDE skills, the teacher had previously mastered the specific PRIDE skill (i.e., greater than 10 reflections) in multiple CDI sessions, and the child had a low number of overall verbalizations during that particular coding. Furthermore, the teacher was graduated from CDI to TDI due to time constraints of the school year and teacher request to move forward with the study. The transition occurred after the fifth CDI session. This highlights the need for increased flexibility when implementing the studied model of TCIT. Time constraints, teacher demands, and school holidays may warrant a less strict adherence to mastery criteria in CDI. Future research should continue to investigate the relationship between maintaining each aspect of PCIT in the schools to determine which are essential to improved outcomes.

The generalization of positive interactions outside of special play was also investigated. Teacher 2 generalized the use of all three PRIDE skills to her instruction, as evidenced by visual analysis and no overlapping data points between the baseline and treatment phases. Conversely, no effect was present for the generalization of PRIDE skills by Teacher 1. Of note, there was a slight increase in Teacher 1's use of labeled praise. Thus, TCIT impacted the skills of only one teacher participant outside of therapy sessions. While the use of PRIDE skills during special play is the expected outcome, the use of these skills outside of special play would be expected to affect changes in student behavior.

Of the previous studies mentioned, McIntosh and colleagues (2000) implemented TCIT outside of the school day and did not study the generalized effect of the intervention to instruction. One study incorporated in vivo coaching and the use of PRIDE skills outside of

coaching sessions and found comparable results (Lyon et al., 2009). In this sample ($n = 12$), 10 teachers demonstrated a modest change in their use of at least one PRIDE skill, as did both teachers in the current study. Moreover, 5 teachers, similar to Teacher 2, demonstrated an increase in multiple skills across settings. Of note, the previous study included unlabeled praise as a PRIDE skill, while the current study did not. Additionally, the current study utilized a frequency observation of PRIDE skills whereas the past study used a partial time sampling. It is possible that both teachers may have demonstrated a greater generalization if Unlabeled Praise had been included or a partial time sampling method used.

Multiple factors may have contributed to the differences in generalization across the teacher participants. First, Teacher 2 had a higher level of engagement in TCIT. She consistently attended sessions, had a higher percentage of implementation integrity of special play, and had longer coaching sessions. The increased amount of both coaching and practice may have allowed Teacher 2 to be more fluent with the PRIDE skills and, subsequently, more adept at utilizing them across settings. The difference in the amount of time it took each teacher to complete CDI (3 weeks versus 5 weeks) may support that Teacher 2 had stronger PRIDE skills than Teacher 1. The additional coaching and feedback time also allowed for the therapist to have conversations with Teacher 2 about generalizing these skills to instruction, which was not prioritized during the short amount of feedback given to Teacher 1. Notably, Teacher 1 had a lower total number of interactions with Student 1 during classroom observations than Teacher 2. Possibly, if the therapy had provided direct instruction in increasing total number of interactions with the target student in the classroom, a greater impact on positive interactions would have been observed. Lastly, as discussed previously, Teacher 1 demonstrated a lower level of engagement in therapy than Teacher 2. Low engagement could have also indicated a low level of buy-in. A low level of

buy-in could have been a barrier to this teacher's incorporation of these skills into general instruction.

Negative Feedback. Similar to the expected behavior changes seen with positive feedback, visual analysis suggested that TCIT resulted in significant changes in both teachers' use of negative feedback during treatment sessions. During these sessions, mastery criteria is considered three or fewer negative feedback statements. Teacher 1 and Teacher 2 had similar baseline and treatment levels of negative feedback. Teacher 1 demonstrated the greatest decrease in her use of commands, while Teacher 2 greatly reduced her use of questions after the implementation of TCIT. Statistical analyses supported these findings for Teacher 1. For Teacher 2, although the PAND indicated an effect, no treatment effect was found during CDI and a questionable effect was found during TDI utilizing the regression analysis. These discrepant findings are likely due to the negative trend during baseline. However, the significant decrease in variability during treatment gives confidence to the interpretation that the negative trend in baseline was due to chance, while the negative trend during treatment was due to the intervention. It is likely that the regression analysis is an underestimate of the actual effect of TCIT for this participant.

These results converge with past research on TCIT. One study that incorporated CDI and sought to reduce "don't" statements saw a decrease in negative feedback during treatment sessions (McIntosh et al., 2000). Other comparable studies did not include special play or aim to decrease this variable. Reducing critical statements was included in one model of Teacher Child Interaction *Training*, and the researchers indicated an effect (Lyon et al., 2009).

Although a decrease in negative feedback was seen during TCIT, these results were not found in the generalization setting for either participant triad. Only slight decrease in Teacher 2's

use of negative talk was observed. Previous research has not investigated the impact of TCIT on teachers' use of questions and commands in the classroom environment. In fact, Lyon and colleagues (2009) explicitly removed any discussion of reducing questions and commands from their intervention program. A reduction in these statements is a necessary part of special play in order for the child to lead the play (Eyberg & Funderburk, 2011). However, it is not a goal of TCIT for teachers to eliminate these statements outside of special play. Instructional activities, such as testing knowledge or reviewing facts, often requires these interactions. Thus, it is not surprising that changes in negative feedback did not generalize to instructional settings.

Effective Commands. While eliminating commands within the instructional setting is not a goal of interaction therapy, teachers received training in the guidelines for effective commands during TDI Teach. Thus, an increase in the percentage of effective, direct commands in comparison to indirect commands would be an expected outcome of TCIT. Although Triad 1 did not receive coaching in direct commands, she did receive didactic training on this skill. Visual and non-overlap analyses indicated that this teacher only demonstrated a slight improvement in the use of direct compared to indirect commands. However, her significant increase in the total of effective commands and reduced variability increase confidence that the effect seen was due to the intervention. Teacher 2 received both the didactic training and classroom coaching in effective commands. Classroom observations suggest that Teacher 2's use of direct commands increased, however her use of indirect commands also increased. Although this teacher's results appear questionable, she demonstrated significant improvements in her use of effective commands during in vivo coaching sessions. Statistical analyses were calculated utilizing the percentage of direct commands in the instructional setting. These analyses did not indicate an increase in effective commands for either participant. The previous research did not

include analyses of commands in the classroom. These results suggest that TCIT does have some effect on teacher's use of commands, however a greater effect was expected. More of an effect was seen for Teacher 2, who had both training and coaching in these skills. It may be that more coaching would have led to greater effects for both teachers.

In sum, both teacher participants improved their use of positive interactions and decreased their use of negative interactions during CDI sessions. Additionally, Teacher 1 generalized her use of positive interactions to her instruction and improved her use of effective commands during in vivo TDI coaching. The goals of TCIT for teacher-child interactions are twofold, first to provide the student with opportunities to receive positive attention and lead special play, and second to improve overall interactions outside of special play. The first goal was met for both participants, as evidenced by changes in skills during sessions. However, the second goal was only partially met; generalization evidence was only present for Teacher 2.

Research Question Three

Ultimately, TCIT aims to provide an intervention to address disruptive behaviors in school. Thus, this outcome variable was studied utilizing multiple measures in the current study. Three measures of student disruptive behavior were included in the current study; 1) pre- and post-treatment scores on the Externalizing Behavior scale on the TRF, 2) teacher ratings on the SESBI-R Intensity scale, and 3) SDO of the student during instruction. Because TCIT ultimately aims to improve student behavior, significant changes across all measures were expected. Specifically, T-scores on the TRF and SESBI-R were expected to fall within the normal range and approximately zero instances of disruptive behaviors during the observations. The results for the current study provide mixed findings related to the impact of TCIT.

Clinically significant decreases in Teacher 1's ratings on the TRF were found for the overall Externalizing Problems scale, as well as the Aggressive Behavior sub-scales. Although the teacher did not rate the student's Rule-Breaking Behaviors in the clinically significant range, she did indicate a decrease in this rating as well. Conversely, neither visual nor statistical analyses of the other measures of student behavior indicated a change for Student 1. Both observations and teacher ratings remained stable throughout TCIT. Observations of student behavior during baseline were already at a low level. Although the teacher reported significant behavior concerns during the initial consultation, later remarks indicated that the severity of the behavior was a greater concern than frequency. A frequency count over the course of an entire school day, as opposed to a 15-minute period, may have yielded more accurate representation of the behaviors of concern. Furthermore, the teacher ratings fell mostly in the at-risk range during baseline, with few ratings reaching clinical significance. A floor effect may have prevented change from being observed. Additionally, during observations, a behavioral aide was present and often prevented disruptive behaviors. Student 1's behavior may have not been severe enough to require the intensity of TCIT. However, a change in behavior would still be expected if the intervention intensity exceeded the need. Rather, this finding may suggest that the intervention may not be appropriate for students with low frequency disruptive behaviors such as aggression and non-compliance only related to classroom assignments.

Teacher 2's ratings of the student participant on the TRF did not decrease. In fact, she indicated an increase of Aggressive Behaviors, which increased the Externalizing Problems scale. However, student 2 demonstrated more significant behavior changes than Student 1 according to continuous data. Visual analysis of the direct observations strongly suggested an effect of TCIT on student behavior. These results were somewhat confounded by a baseline data

point in which the student demonstrated treatment levels of behavior. It should be noted that the teacher held a parent-teacher conference the evening before this observation to discuss behavior concerns. She remarked that his behavior that day was atypically improved. Although the teacher-parent conference improved the student's behavior, this result was not maintained past that data point. Surprisingly, regression analysis did not support the findings indicated in the visual analysis. Given the small number of data points, the outlier discussed previously may have contributed to this lack of findings. Moreover, the regression models used did not account for a trend in baseline. The increasing trend or large amount of variability in baseline may have affected the statistical findings.

Weekly ratings demonstrated a decline in the level of intensity and clinical significance of this student's behavior problems. Both visual and regression analysis suggested that this change occurred following the implementation of TDI. An interesting finding of this study is that observations indicated an immediate change, while ratings did not reflect this change until TDI. It is possible that the student's behavior continued to change throughout the intervention. During CDI, the student was only exhibiting 1 – 2 disruptive behaviors per 15-minute observation. A floor effect may have prevented further improvements from being detected. Another possible explanation is there may have been a delay between the actual change in behavior and the teacher's recognition of reduced problem behaviors. An observer was able to recognize change in the student behavior, but this may have been more difficult for the teacher to detect.

Taken together, findings suggest that TCIT was effective in changing the behavior for Student 2, but the effect is not clear for Student 1. Besides the previously discussed explanations for Student 1's non-effect, it is likely that the differences in the intervention implementation and teachers' use of skills outside of sessions led to diverging results. Teacher 1 did not incorporate

non-compliance training into TCIT. This training may have resulted in behavior change for Student 2 that was not present for Student 1. It should be noted that statistical analyses did not indicate a change in Teacher 2's ratings of behavior until after TDI, further supporting this possibility. It is also possible that the effect of TCIT on aggressive behavior is delayed. These changes may have been emerging for Participant Triad 1 at the end of the study when the teacher completed the final ratings scales. Of note, the rating scales given at the end of data collection were the only measures that indicated change for this participant. Longer data collection or additional TDI sessions may have indicated a greater change in Triad 1's weekly ratings. Furthermore, Teacher 2's increased ratings of Aggressive Behavior on the TRF may also support that TCIT has a less evident or delayed effect on aggression.

Difference in the teacher's generalized use of the skills may also explain the discrepant findings. Teacher 2 had greater availability for coaching and feedback, which may have not only improved her skills, but consequently led to greater impact on the student. Moreover, unlike Teacher 2, Teacher 1 did not generalize her positive interactions to instruction throughout the day. It is likely that, although special play is an important aspect of TCIT, behavior change occurs only if it is paired with improved daily interactions.

One of the previous studies that implemented TCIT as a universal training program investigated class-wide student behavior utilizing partial interval coding (Tiano & McNeil, 2006). Findings did not indicate changes in student behavior as a result of TCIT; both the control group and the treatment group improved over time. The researchers attributed the lack of significant results to either a floor effect or student maturity from the beginning of the year to the end of the year. The only other study that investigated student behavior was the case study by McIntosh and colleagues (2000). This study solely measured compliance during TDI sessions

and included anecdotal teacher report. During TDI sessions in this study, student compliance increased to 100%, as it did for Student 2. Additionally, the teacher reported at the end of the study that she observed changes in the target student's behavior. Therefore, findings of effects of TCIT on behavior for Student 2 converge with past research.

Research Question Four

This study also investigated whether TCIT impacted teachers' stress related to problem behaviors. It was hypothesized that teacher ratings of stress related to the student behavior problems would demonstrate a decrease over the course of intervention. Similar to the Intensity scale, a T-score lower than 55 is the aim on this measure. The teacher's ratings of stress for Triad 1 demonstrated a slight decline following the implementation of TCIT, which continued throughout the intervention. However, this decrease was not large enough to have statistical significance according to regression analyses. Similarly Triad 2 indicated a minimal decrease in ratings of teacher stress. Both the PAND and regression analyses did not detect any change in teacher stress in either phase of TCIT.

Past research has not investigated the impact of various TCIT models on teacher stress (Lyon et al., 2009; McIntosh et al., 2000). Tiano and McNeil (2006) included a pre- and post-treatment questionnaire measuring classroom manageability in their study of a universal prevention model. This study compared treatment classrooms ($n = 4$) to control classrooms ($n = 4$) and found no difference in ratings of manageability for either group. Despite differences in variable definition and measurement, it could be expected that teachers' feelings of ability to manage their classroom and teacher stress related to problem behaviors would demonstrate similar changes following a behavior intervention. It is surprising that neither study found an impact on these variables given the vast research on parent responses to PCIT. Past studies

consistently show a significant reduction in parent stress and feelings of increased behavior management skills as a result of the home intervention (Schuhmann et al., 1998; Thomas & Zimmer-Gembeck, 2007).

Both teacher participants expressed that they saw the value in and enjoyed special play, but also relayed concerns with the logistics and time demands associated with its implementation. Children who display disruptive behavior can cause significant stress to their teachers, thus it was expected that the teachers in this study would demonstrate a reduction in stress following training in behavior management. However, behavior management does require consistent attention and response to positive as well as disruptive behaviors. The increase of demands on the teacher to follow through consistently with behavior management strategies may have outweighed the expected reduction of stress resulting from confidence with these strategies. This phenomenon may not be present with parents undergoing PCIT because of the high number of demands on teachers. In addition to managing the target student's behavior, both teachers had a large number of other students' behaviors to manage as well as academic instructional demands. This may have been a particularly influential factor in the current study because it was implemented in two kindergarten classrooms, where both behavior and academic expectations greatly exceed those in preschool and Head Start settings.

Furthermore, it is highly likely that the teachers' ratings of stress are related to their ratings of student disruptive behaviors. For both participants, the ratings on the two SESBI-R scales mirror each other. Specifically, Teacher 1 did not recognize a change in the student's behavior and only demonstrated a slight decline in stress until the final data point for both scales. For Teacher 2, similar to the trend seen with ratings of behavior, no change was seen in ratings of stress until the implementation of TDI. Although these measures mirror each other, it should

be noted that the level of decreased behavior ratings was larger than the decrease in stress. This suggests that even following behavior changes by the child, these students may still be seen as having problem behaviors that cause the teacher stress. This is supported by the teacher's high ratings of conflict in the relationship between her and the student. Lastly, given the timeline constraints of the current study, data were not collected following the completion of TDI.

Changes in teacher stress may have a delayed effect following TCIT. A greater impact may have been seen if more data had been completed following TDI, or if TDI had lasted longer for the participants. Perhaps the implementation of TDI over time would lead to increased mastery of behavior management skills and, subsequently, reduced stress.

Research Question Five

In TCIT, improved teacher-child relationships are theorized to be a mediating factor between teacher-child interactions and student disruptive behaviors due to findings from PCIT research (Schuhmann et al., 1998; Thomas & Zimmer-Gembeck, 2007). TCIT aims to repair the often damaged relationships between children with disruptive behaviors and their teachers. Therefore, research question five examined whether TCIT improved teacher-child relationships for the two participant triads.

Findings for Triad 1 indicate that the feelings of closeness between the teacher and child increased over the course of therapy. The ratings of conflict started at a low level during baseline and continued to decrease, reaching a much lower level by the end of TDI. Teacher 2 also rated an improved relationship during TCIT. A ceiling effect may have prevented larger observed increases in feelings of closeness at the end of treatment for this triad. Interestingly, Teacher 2 also rated the relationship as increasing in conflict; antithetical to the goal of TCIT to reduce the coercive cycle between the teacher and student.

Past studies have not investigated the effects of TCIT on teacher-child relationships (Lyon et al., 2009; McIntosh et al., 2000; Tiano & McNeil, 2006). Because this variable was measured on a probe schedule, we cannot be confident that these findings are a result of TCIT as opposed to chance. Regardless, these results suggest that the relationships between students with disruptive behaviors and their teachers is complicated. It is possible that feelings of closeness did not overcome the conflict that may result from behavior management for Triad 2. Although the behavior management strategies in TCIT aim to reduce conflict by implementing consistent expectations and follow-through, time-out procedures are often uncomfortable for both the teacher and student. Additionally, more attention to problem behaviors and enforcing compliance may create higher levels of conflict. A longer data collection may have discovered that levels of conflict would decrease over time. It could also be possible that feelings of conflict are related to teacher perceptions of aggression. Teacher 1 indicated a decrease in the student's aggressive behavior as well as conflict following TDI. Teacher 2, although indicating improved behavior according to the SESBI-R, also rated increases in student aggression on the TRF as well as conflict with the student.

Research Question Six

Lastly, the current study investigated whether teachers considered TCIT an acceptable treatment option for students who display disruptive behaviors.

Teacher 1 rated TCIT as an acceptable intervention. In fact, she agreed with all of the items on the TEI except for the statement, "I believe it would be acceptable to use this approach with individuals who cannot choose treatment for themselves." She indicated that her feelings were neutral for this item, which may be a reflection of personal belief rather than perceptions of the intervention itself. Teacher 2 had lower ratings of acceptability and mixed reactions to the

intervention. She strongly agreed that she would be willing to use this intervention to change a child's behavior and agreed that the intervention was acceptable for students and likely to be effective. However, she also disagreed that she found this intervention acceptable for the current student and did not believe this approach would result in permanent improvement for him. This teacher provided qualitative feedback to the researcher. Specifically, she stated that she did not believe that the same strategies used with TCIT were being implemented across stakeholders, particularly at home. She also mentioned that other school personnel, such as classroom aides or specials teachers, did not receive this training and were not using the same approach to respond to the student's behavior. Despite ratings that the intensity of behavior decreased, anecdotally, the teacher stated that the student was still "manipulative," and would return to the high levels of disruptive behaviors if all of the stakeholders were not involved in the intervention. The teacher also noted that her concern about the summer break and lack of consistency influenced her rating of this intervention as not permanent. . Anecdotally, this teacher frequently expressed a high level of stress and dissatisfaction. Although she felt supported by administration, she shared that she was given a large number of high needs children because she was a strong teacher. Teacher 2 expressed that she felt as though she was unable to meet all of her students' needs because of the large class size as well as the amount of resources this single child required.

Of the past research on TCIT, one study found a high level of teacher satisfaction (Lyon et al., 2009). Researchers found that teachers considered the skills useful, had increased self-efficacy, considered the coaching effective, and were overall satisfied with the training. Perhaps, because the studied model of TCIT was an individualized intervention as opposed to professional development, acceptability was more difficult to obtain. Both teachers remarked that they saw the potential in the intervention and enjoyed special play. However, they both also shared that

they found TCIT to be time and resource intensive. Teacher 2 stated that she believed that all of the students in her class would benefit from special play, and did not think it was “fair,” that only the child with behavior concerns received it. The therapist attempted to problem solve ways to incorporate more special play into her instruction with the other students. However, the teacher continued to bring up the unequal investment of time for a student with behavior problems as a barrier to her acceptance of the intervention, regardless of its outcome. Interestingly, she did, both on the TEI and anecdotally, state that she would continue to use these strategies, incorporate them into her instruction in the future, and coach his teacher the following year in how to use them. Much like her ratings on the STRS-SF, Teacher 2’s feedback indicates that students with disruptive behaviors can have strained relationships with their teachers. Perhaps the teacher would have demonstrated more acceptability if TCIT had been implemented as soon as the student entered the classroom, before the student’s disruptive behaviors impacted the relationship.

Summary and Contribution to the Literature

Results from the current study indicate that this ecological, intensive model of TCIT was effective in improving teacher skills and positive interactions. Despite improved interactions during therapy sessions, only one participant triad’s interactions improved outside of these sessions. Moreover, this student’s behavior improved in both observation and teacher ratings. However, the triad whose interactions did not generalize, also did not demonstrate a change in child behavior due to the intervention according to weekly data collection. These findings suggest that while TCIT provides increased positive interactions, unless these interactions are generalized to instruction and paired with compliance training, effects on student behavior may

not be seen. Furthermore, it is possible when low-frequency, intense disruptive behaviors are present, TCIT has a delayed effect.

Teacher stress related to the problem behaviors was hypothesized to decrease as a result of TCIT's impact on teacher skills and student behavior. Given that one triad did not generalize her skills to the classroom and a change was not seen in student behavior, it is not surprising that this teacher's stress did not significantly decrease. Although the other triad did see an effect from TCIT, the teacher's ratings of stress also did not significantly decline. This lack of finding may be due to the significant time and resource demands on the teachers, both from typical instructional practices and from participation in the current study.

Unique to this study was the investigation of the changes in teacher-child relationships. Methodology does not allow for causal statements, however, changes in teacher ratings of their relationship with the target student were observed. Both teachers indicated increased feelings of closeness with their students. Interestingly, Teacher 2 also rated increased conflict in the relationship over time. This teacher, although seeing improvement in student behavior, also only had a moderate level of treatment acceptability. She stated that although she saw the potential of the strategies used, the time commitment and use of the intervention with student in particular were barriers to her satisfaction with TCIT.

The current study makes a significant contribution to the small body of literature on TCIT. Past literature utilizing TCIT as a universal model found similar results related to improvements in teacher skills (Lyon et al., 2009; Tiano & McNeil, 2006). Specifically, all three studies demonstrated increases in positive interactions and decreases in critical statements. Lyon and colleagues (2009) investigated the use of these skills in instructional practice and found similar mixed results across their sample. This study extends these findings by supporting similar

results when implementing TCIT as an ecological and intensive intervention, as opposed to a class-wide management strategy. Two of the current findings diverge from past literature. First, the current study found a higher level of integrity of implementation by the teacher participants than Lyon and colleagues (2009). Second, ratings of acceptability were lower for Teacher 2 than found in this past research (Lyon et al., 2009).

One other study was found in the literature that examined TCIT as a targeted intervention (McIntosh et al., 2000). Findings from this study converge with the current study's results related to teacher skills. However, the current study improves upon this study by investigating the generalization of these skills to instruction. Similarly McIntosh and colleagues (2000) demonstrated student behavior change within the therapy sessions and through teacher report of classroom behavior. Results for one participant in the present study mirrors the promising result from previous research. The current study improved upon these findings by utilizing standardized rating scales and classroom observations to measure student behavior.

In addition to contributing a unique model of TCIT to the literature, this study presents various methodological improvements. Although recruitment barriers prevented a true single case design, multiple components were maintained to allow more rigor than a case study. First, utilizing more than one participant allowed for possible replication with a non-concurrent multiple-baseline design. Continuous assessment of the main variables of interest provided a look at the nuances in change over time. Furthermore, randomization of at least three weeks of baseline aligned with WWC standards and allowed for baseline stability to be established. Statistical analyses were also introduced to improve rigor, specifically, PAND calculations, masked visual analysis, and regression analyses. Thus, the current study offers not only a novel intervention model, but also a rigorous analysis.

Limitations

Although the results indicated that TCIT led to improved outcomes in the present study, these findings should be considered with respect to multiple limitations. These limitations include issues related to sample size, intervention adaptations, and data collection barriers.

The current study included two participant triads, although the target was to include up to seven participant triads. Difficulties with recruiting prevented a larger number of participants. This small sample size raises questions about the generalizability of the results to a larger population. A small number of participants is typical of single case studies that draw on a large number of data points from a few participants as opposed to a large number of participants with only a few data points to make conclusions. Research has not determined the capacity for findings from single case research to generalize to larger populations (Kazdin, 2011). Nevertheless, single case design provides a feasible and cost-effective alternative to randomized-control trials when examining intensive interventions. This methodology is particularly applicable to answer research questions during the development of interventions and allows for a look into the nuances of behavior change. Although a small sample size is typical of SCD, the more phases in the study, the more confidence can be placed in interpreting an effect (Kratochwill & Levin, 2010). According to What Works Clearinghouse (WWC) Standards for evidence demonstrated by single-case design, six phases with at least five data points per phase are necessary to meet standards for a multiple-baseline design (Kratochwill et al., 2013). This can be achieved by having a minimum of three participants. Because this study included two participant triads, there is limited confidence that these results would generalize to a larger population. Thus, the effects and non-effects discussed in this study can only be considered for the two included participant triads.

Practical issues related to the adaptations to and timing of the interventions also presented various limitations to the current study. The intervention protocol was significantly altered for Triad 1 to accommodate the teacher's request that time out not be used for non-compliance. Removal of this component of the intervention may have caused the non-effects seen by this triad. Moreover, internal validity was threatened because shifting phases according to a priori selected timeline as opposed to the trends in the data may have prevented the establishment of stable baselines. However, in all except for one outcome (i.e., disruptive behaviors for Triad 2), baseline stability was established. Additionally, due to the skill-building nature of the intervention, it was expected that there will be a delay in changes in multiple outcomes, such as child behavior, teacher-child relationships, and teacher stress. This would decrease confidence that behavior changes were attributable to the shift in phases. However, teacher skills were expected to demonstrate a more immediate change, thus this behavior was the main variable of interest when examining phase changes. Additionally, to reduce this threat to validity, the study utilized the recommended minimum number of baseline points and collected two baseline points in between participants (Kratowill et al., 2013). Threats to internal validity may also exist with the use of two, non-concurrent intervention start points. Differences in the start time, history, or maturation may have contributed to changes seen in participants' outcomes. However, this design was necessary due to a change in the teacher participant for Triad 2. Moreover, the random assignment to various lengths of baseline may have ameliorated these threats to internal validity.

Implications for Research

The current study found partial support for the effectiveness of TCIT with the included participants. These results, combined with evidence from past literature (Lyon et al., 2009;

McIntosh et al., 2000; Tiano & McNeil, 2006) suggest that further research into TCIT is warranted. TCIT has the potential to be an evidence-based intervention. However, future research must determine not only whether this intervention is effective for the larger population, but also best practices for its implementation.

TCIT parallels PCIT, which has been extensively studied as an evidence-based intervention for disruptive behaviors in the home setting (Chambless & Ollendick, 2001). The components believed to yield the improved outcomes in PCIT include, the use of play therapy techniques (i.e., PRIDE skills), the consistent behavior management techniques (i.e., PDI skills), live coaching during therapy sessions, and the weekly tracking and review of progress monitoring data. The model of TCIT in this study attempted to maintain all of these components and mirror the parent intervention more closely than past research.

Although these components may be effective in the classroom, the resources in the home environment to support behavior change considerably exceed those available in the classroom. This was particularly apparent in two aspects of the current study. First, during recruitment, many parents expressed interest in the study given their satisfaction with PCIT. However, one school district and multiple administrations and teachers were not willing to participate in the current study, often stating that the study would require unavailable resources or place too much strain on the teacher. This was particularly true of students who were not classified as eligible for ESE services. Of note, one of the two student participants was eligible for ESE under the category of Autism Spectrum Disorders. Although PCIT was created to target children with Disruptive Behavior Disorders, literature is emerging on the efficacy with other populations who demonstrate similar behaviors, such as children with Autism Spectrum Disorder and Attention Deficit/Hyperactivity Disorder (Agazzi, Tan, & Tan, 2013; Armstrong & Kimonis, 2013;

Soloman et al., 2008; Matos, Bauermeister, & Bernal, 2009). Both teacher participants had an aide in the classroom during the intervention sessions to assist with managing the other students. Additionally, both school administrations provided additional support to the teachers through student services personnel to assist with responded to escalated behavior concerns. Second, both teachers provided verbal feedback that they valued the intervention, but found the strain on resources as a significant barrier to implementation. Intervention sessions lasted approximately 10 - 20 minutes with the teacher participants, whereas PCIT sessions last for an hour. Intervention sessions were also cancelled, interrupted, or shortened due to other teacher obligations. Both teachers expressed difficulty finding the time to dedicate to individual interactions with the student. This particularly affected the length of CDI mastery for Teacher Participant 1. It is possible that these high demands also led to the non-effects seen in teacher ratings of stress related to behavior problems. Lastly, qualitative and quantitative feedback from Teacher Participant 2 may indicate that the resource drain may outweigh the benefits from the behavior changes seen in TCIT.

Future research should investigate a model of TCIT with increasing levels of intensity to determine which PCIT components are necessary to improve teacher-child interactions and, subsequently, child disruptive behaviors. One possible adaptation to the current model would include implementing CDI and TDI concurrently. By starting the intervention with the behavior management component first, teachers may see a more immediate shift in behavior and be more willing to invest their limited resources to the intervention. Data indicate that, of the two phases, TDI had a greater impact on student behavior. Triad 1, who did not fully implement TDI, did not demonstrate significant behavior changes. This suggests that TDI may be an essential component of changing a child's behavior in TCIT.

Another potential future adaptation to the study of TCIT would include implementing the intervention with a school-based psychologist as the therapist. A school psychologist at the participants' school may have increased flexibility. He or she may be able to hold coaching sessions multiple times per week or at more flexible times during the day and involve multiple stakeholders at the school. Utilizing a school-based psychologist may present challenges with the knowledge and expertise of the professional implementing the intervention, as few PCIT Certified Therapists are employed in school. Furthermore, the training to become a PCIT Certified Therapist is extensive, thus it would be difficult to implement without school-based psychologists who do not already have this expertise. However, this would also increase the external validity of the study.

Lastly, given the intensity of the intervention, TCIT may not be a realistic intervention for use in general education kindergarten classrooms. TCIT may be more applicable to students already classified as eligible for ESE services because schools have a higher availability of resources for these students. TCIT may be too intensive of an intervention for the general education setting. Moreover, this intervention may be more practical to implement in preschool classrooms. These classrooms typically have a smaller adult-to-student ratio as well as fewer academic demands and more opportunities to engage in play. This is supported by lower levels of teacher acceptability in the current study compared to studies in preschool or Head Start settings (Lyon et al., 2009).

Besides the resource-intensive nature of the intervention, the largest barrier to this study was difficulties with recruitment. As mentioned previously, one barrier to recruitment was schools' unwillingness to participate due to the investment of resources. Additionally, multiple barriers were introduced due to the ecological nature of the intervention. First, this study required

multiple layers of approval and consent. This not only caused significant delays in the beginning of data collection, but precluded the participation of multiple potential participants. Second, this study recruited from a targeted population; young children who had successfully graduated from PCIT but still demonstrated classroom behavior problems. Thus, there was a limited pool of potential participants who had graduated from the PCIT Clinic and were an appropriate age. Furthermore, many children that met this criteria did not demonstrate significant classroom problem behaviors following the completion of PCIT. In fact, multiple children whose parents had consented to participation and provided permission for their child's participation at the beginning of their home-based therapy dropped out of the study prior to data collection due to improvements in classroom behavior during the course of PCIT.

This has two implications for future research. Foremost, the relationship between PCIT and classroom behavior needs to be investigated further. Although ecological intervention is best practice, PCIT alone may be an effective treatment for most children. A follow-up study should monitor students' classroom behaviors as they complete PCIT to determine the generalization of the effect. Those children who do continue to have behavior problems in the classroom following PCIT may only need their teachers to participate in behavioral consultation to see improved outcomes. Varying levels of teacher support implemented concurrently with PCIT should be studied to determine the most effective intensity of classroom intervention needed and factors to help make those determinations. Secondly, TCIT can be studied as an independent intervention for students with disruptive behaviors regardless of their completion of PCIT. This would allow for the implementation of TCIT as a school intervention for students who are unable to access PCIT as a treatment for their behavior concerns.

In sum, this study presents findings that support the further investigation of TCIT as a classroom intervention. However, research on this intervention is in its infancy. In addition to replication of these findings utilizing a sample size large enough to produce generalizable results, multiple adaptations to the intervention should be examined. Future research can include different components of the intervention, varying levels of intensity, and implementation independent from or concurrent with PCIT.

Implications for Practice

Prior to the implementation of TCIT as a classroom intervention, research must establish it as an evidence-based intervention. However, this study supports the use of an adaptation of PCIT in the school setting. Nevertheless, this study is not sufficient to establish TCIT as an evidence-based intervention. Practitioners must closely monitor student outcomes and make intervention decisions based on the response to intervention if they choose to implement TCIT.

If practitioners were to adapt PCIT for use in the classroom, they must not only consider the effectiveness of the intervention, but how to incorporate it into the school setting. The studied model of TCIT modified PCIT by (1) reducing the length of sessions; (2) allowing teachers to complete fewer days of special play in between sessions; (3) collaboratively developing the TDI procedure; (4) having teachers complete progress monitoring tools prior to the session, (5) accelerating the incorporation of TDI skills to the entire school day, and (6) discussing class-wide behavior management strategies. Interventionists may need to make additional adaptations to allow for implementation in the target classrooms.

Practitioners implementing TCIT must balance the utilization of resources with the level of intensity needed to see behavior change with the student. The studied model highlighted multiple decision points for interventionists. The various considerations for implementation are

listed: (1) availability of time and scheduling of both the intervention sessions and special play; (2) location of the sessions and special play, particularly the presence of other adults and students; (3) level of personnel and administrative support available to the teacher during implementation; (4) amount of teacher investment and dedication to the intervention, as well as willingness to implement with integrity; (5) availability of a school psychologist or community provider with training in PCIT to implement TCIT; (6) level of the teacher's behavior management skills prior to intervention; and (7) the student's access to or completion of PCIT.

Furthermore, school-based personnel without the resources to implement TCIT but have knowledge of a student's participation in PCIT may consult with the teacher on how to incorporate key facets of this intervention. Specifically, consultation could focus on teaching various PRIDE skills, increasing the amount of positive feedback and reducing negative feedback, as well as a consistent removal of reinforcement procedure.

Conclusion

Disruptive behaviors in early childhood predict a myriad of future impairments (Bradshaw et al., 2010; NICHD Network ECCR, 2004). The prognosis of these children significantly improve as a result of early intervention (Garland, Hawley, Brookman-Frazee, & Hulburt, 2008; Tremblay, 2006). These effects are multiplied when intervention is provided across settings (Reid et al., 2003; Walker et al., 2009; Webster-Stratton & Hammond, 1997). Given that PCIT has a strong evidence base for reducing behavior concerns at home (Chambless & Ollendick, 2001; Schuhmann et al., 1998; Thomas & Zimmer-Gembeck, 2007), research should be extended to determine the effects of similar intervention in the school setting. PCIT has been adapted to the classroom (Lyon et al., 2009; McIntosh et al., 2000; Tiano & McNeil,

2006), but not as part of an ecological approach that incorporates Special Play, time out, and in vivo coaching of skills.

The current study investigated the effects of a targeted model of TCIT, implemented with two kindergarten students who successfully completed PCIT. Results indicate that teachers were able to master the TCIT skills and increase their positive interactions with the student. Mixed results were found related to the teachers' generalization of these skills, the impact on student behavior, and teacher-child relationships. Of note, ratings of teacher stress related to the problems behaviors did not decrease for these participants. These promising results need to be extended by future research to determine if these effects can improve student behavior in this population and the most appropriate adaptations for the classroom.

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Appendix A: Informed Consent to Participate in Research: Parent Participants

Information to Consider Before Taking Part in this Research Study

IRB Study # Pro0019524

You are being asked to take part in a research study. Research studies include only people who choose to take part. This document is called an informed consent form. Please read this information carefully and take your time making your decision. Ask the researcher or study staff to discuss this consent form with you, please ask him/her to explain any words or information you do not clearly understand. We encourage you to talk with your family and friends before you decide to take part in this research study. The nature of the study, risks, inconveniences, discomforts, and other important information about the study are listed below.

Please tell the study staff if you are taking part in another research study.

We are asking you to take part in a research study called:

“Teacher Child Interaction Therapy: An Ecological Approach to Intervening with Young Children Who Display Disruptive Behaviors”

The person who is in charge of this research study is Sara Hinojosa. This person is called the Principal Investigator. However, other research staff may be involved and can act on behalf of the person in charge. She is being guided in this research by Dr. Kathy Bradley-Klug and Dr. Kathleen Armstrong.

The research will be conducted at your child’s school.

Purpose of the study

The purpose of this study is to:

The purpose of this study is to find out if children who are participating in or have completed Parent-Child Interaction Therapy (PCIT), but still have behavior problems at school, would benefit from a similar teacher intervention. Teacher Child Interaction Therapy (TCIT) is a new intervention that has not been studied with an individual student before. However, the intervention looks very similar to PCIT, except used in a classroom with a teacher and student. PCIT is an evidence-base intervention that teaches parents how to manage their children’s behavior problems.

The Primary Investigator, who is a doctoral candidate in School Psychology at the University of South Florida, is conducting this study for a dissertation.

Should you take part in this study?

Before you decide:

Read this form and find out what the study is about.

You may have questions this form does not answer. You do not have to guess at things you don't understand. If you have questions ask the person in charge of the study or study staff as you go along. Ask them to explain things in a way you can understand.

Take your time to think about it.

This form tells you about this research study. This form explains:

- Why this study is being done.
- What will happen during this study and what you will need to do.
- Whether there is any chance of benefits from being in this study.
- The risks involved in this study.
- How the information collected about you during this study will be used and with whom it may be shared.

Taking part in this research study is up to you. If you choose to be in the study, then you should sign this informed consent form. If you do not want to take part in this study, you should not sign this form.

Why are you being asked to take part?

We are asking your child to take part in this research study because he or she has participated in PCIT, but may still have behavior problems in school. We want to find out if TCIT will help your child's behavior improve at school. We hope that TCIT will improve your child's behavior at school like PCIT improved their behavior at home.

What will happen during this study?

Your child will be asked to spend about 15-20 weeks in this study. The study will include 3-7 weeks where the researchers will observe your child in school before the intervention starts. During the remaining weeks, TCIT will occur in your child's classroom with your child and his or her teacher.

You will be asked to complete a questionnaire at the beginning of the study and behavior rating scales at different points before and after the intervention. You will be asked to complete this rating scale five times throughout the study.

This study will include the following parts:

1. To make sure your child needs the intensive intervention, your child's teacher will be contacted and asked to fill out behavior rating scales. Additionally, the teacher will be given a full description of the study and will also be asked to consent to participate in the study. The school's administration will also be told about the study to get their approval and support.

2. As a part of the research, your child’s classroom behavior before the intervention needs to be measured for a few weeks. The researcher will observe your child in the classroom for 3-7 weeks before TCIT starts. Your child will be told that the researcher is there to watch how his or her teacher teaches her students.
3. A meeting will take place with the researcher and the teacher to decide on the time-out procedure. You, the school’s administration, and any support staff (such as school psychologist or teaching assistants) will be encouraged to attend this meeting. Time-out can cause the child and teacher discomfort. Also, many schools have regulations related to the use of time-out. The purpose of this meeting is to decide on how to do time-out in a way that is effective and that everyone is comfortable with.
4. TCIT will start with Child-Directed Interaction (CDI), just like in PCIT. Teachers will learn the CDI skills, be coached every week by a researcher, and practice daily with your child. Once the teacher meets a certain criterion with her CDI skills, she will begin the second part of the intervention.
5. The second half of TCIT is Teacher-Directed Interaction (TDI). This is very similar to Parent-Directed Interaction (PDI). The teacher will learn how to give effective commands and how to respond when your child follows those commands and when your child does not. This will include the time-out procedure that you, the teacher, and school administration have approved. The teacher will first practice these skills while being coached by the researcher, then gradually start practicing them throughout the school day.
6. TCIT will end when the teacher meets graduation criteria with the TCIT skills and your child’s behaviors have improved.

Your child will participate in all of the weekly TCIT sessions, except for the first CDI and TDI sessions, which will just include the researcher and the teacher. You, the teacher, and the researcher will decide when TCIT sessions will take place. Some examples of time when TCIT could happen include: during specials or a free period, before school, or after school. It is expected that teachers will take 8-12 weeks to meet criteria for TCIT graduation. Most TCIT sessions will take 45 minutes.

At each TCIT session, your child will be asked to participate in the therapy. Additionally, your child and his or her teacher will take place in 10 minute “special play.” Teachers will complete multiple rating scales each week. Also, you will be asked to complete behavior rating scales six times during the study. The scales will be sent home with your child with an envelope. You will be asked to complete these scales and return them in a sealed envelope to the teacher, who will give it to the researcher.

Total Number of Participants

About 21 individuals will take part in this study, including seven students, their seven parents, and their seven teachers. The intervention will occur at each student’s preschool classroom.

Alternatives

You do not have to participate in this research study.

Alternatives to participating in the study include: referring the student to the school psychologist or asking your school's administration how to receive tiered support for your student.

Benefits

The potential benefits to your child include improved classroom behavior and a better relationship between your child and his or her teacher.

We do not know if this study will help children with his or her classroom behavior, that is why we are doing this study. By volunteering you are helping us learn more about this intervention. We will learn more about what does or does not help individuals with classroom behavior problems. What we learn may help others in the future.

Risks or Discomfort

The following risks may occur:

- Discomfort with time-out or other discipline strategies.
- Student participants may be uncomfortable or embarrassed by additional attention.
- Privacy cannot be guaranteed. The administration and additional school faculty will be aware of the intervention. Also, your student's progress will be shared with the school and placed in his or her records. However, this is typical practice in school.

If your student has any of these problems, tell the person in charge of this study or study staff. If these side effects bother or worry you, or if your child has other problems, call the person in charge of this study at 813-974-6142.

Compensation

You will be given a \$10 gift card if you complete all the scheduled study visits and complete the behavior rating scales. If you withdraw for any reason from the study before completion you will be paid \$1 for each completed behavior rating scale.

Cost

There will be no additional costs to you as a result of being in this study.

Privacy and Confidentiality

We will keep your study records private and confidential. Certain people may need to see your study records. By law, anyone who looks at your records must keep them completely confidential. The only people who will be allowed to see these records are:

The research team, including the Principal Investigator, study coordinator, research nurses, and all other research staff.

Certain government and university people who need to know more about the study. For example, individuals who provide oversight on this study may need to look at your

records. This is done to make sure that we are doing the study in the right way. They also need to make sure that we are protecting your rights and your safety.

Any agency of the federal, state, or local government that regulates this research. This includes the Food and Drug Administration (FDA), Florida Department of Health, and the Department of Health and Human Services (DHHS) and the Office for Human Research Protection (OHRP).

Board (IRB) and its related staff who have oversight responsibilities for this study, staff in the USF Office of Research and Innovation, USF Division of Research Integrity and Compliance, and other USF offices who oversee this research.

Student data related to progress made in the intervention will be shared with the school and placed in the student's record. This will not include the data that you complete as part of the study.

We may publish what we learn from this study. If we do, we will not include your name. We will not publish anything that would let people know who you are.

Voluntary Participation / Withdrawal

You should only take part in this study if you want to volunteer. You should not feel that there is any pressure to take part in the study. You are free to participate in this research or withdraw at any time. There will be no penalty or loss of benefits you are entitled to receive if you stop taking part in this study. Decision to participate or not to participate will not affect your job status.

New information about the study

During the course of this study, we may find more information that could be important to you. This includes information that, once learned, might cause you to change your mind about being in the study. We will notify you as soon as possible if such information becomes available.

You can get the answers to your questions, concerns, or complaints.

If you have any questions, concerns or complaints about this study, call Sara Hinojosa at 407-375-1300.

If you have questions about your rights, general questions, complaints, or issues as a person taking part in this study, call the USF IRB at (813) 974-5638.

Consent to Take Part in Research

It is up to you to decide whether you want to take part in this study. If you want to take part, please read the statements below and sign the form if the statements are true. I freely give my consent to take part in this study and authorize that my health information as agreed above, be collected/disclosed in this study. I understand that by signing this form I am agreeing to take part in research. I have received a copy of this form to take with me.

Signature of Person Taking Part in Study

Date

Printed Name of Person Taking Part in Study

Statement of Person Obtaining Informed Consent and Research Authorization

I have carefully explained to the person taking part in the study what he or she can expect from their participation. I hereby certify that when this person signs this form, to the best of my knowledge, he/ she understands:

- What the study is about;
- What procedures/interventions will be used;
- What the potential benefits might be; and
- What the known risks might be.

I can confirm that this research subject speaks the language that was used to explain this research and is receiving an informed consent form in the appropriate language. Additionally, this subject reads well enough to understand this document or, if not, this person is able to hear and understand when the form is read to him or her. This subject does not have a medical/psychological problem that would compromise comprehension and therefore makes it hard to understand what is being explained and can, therefore, give legally effective informed consent. This subject is not under any type of anesthesia or analgesic that may cloud their judgment or make it hard to understand what is being explained and, therefore, can be considered competent to give informed consent.

Signature of Person Obtaining Informed Consent

Date

Printed Name of Person Obtaining Informed Consent

Appendix B: Parental Permission to Participate in Social & Behavioral Research

Information for parents to consider before allowing your child to take part in this research study.

IRB Study # Pro00019524

The following information is being presented to help you and your child decide whether or not your child wishes to be a part of a research study. Please read this information carefully. If you have any questions or if you do not understand the information, we encourage you to ask the research.

We are asking you to allow your child to take part in a research study called:
“Teacher Child Interaction Therapy: An Ecological Approach to Intervening with Young Children Who Display Disruptive Behaviors”

The person who is in charge of this research study is Sara Hinojosa. This person is called the Principal Investigator. However, other research staff may be involved and can act on behalf of the person in charge. She is being guided in this research by Dr. Kathy Bradley-Klug and Dr. Kathleen Armstrong.

The research will be conducted at your child’s school.

Why is this research being done?

The purpose of this study is to find out if children who are participating in or have completed Parent-Child Interaction Therapy (PCIT), but still have behavior problems at school, would benefit from a similar teacher intervention. Teacher Child Interaction Therapy (TCIT) is a new intervention that has not been studied with an individual student before. However, the intervention looks very similar to PCIT, except used in a classroom with a teacher and student.

Why is your child being asked to take part?

We are asking your child to take part in this research study because he or she is completing or has successfully completed PCIT, but may still have behavior problems in school. We want to find out if TCIT will help your child’s behavior improve at school.

Should your child take part in this study?

This informed consent form tells you about this research study. You can decide if you want your child to take part in it. This form explains:

- Why this study is being done.
- What will happen during this study and what your child will need to do.
- Whether there is any chance your child might experience potential benefits from being in the study.
- The risks of having problems because your child is in this study.

Before you decide:

Read this form.

Have a friend or family member read it.

Talk about this study with the person in charge of the study or the person explaining the study. You can have someone with you when you talk about the study.

Talk it over with someone you trust.

Find out what the study is about.

You may have questions this form does not answer. You do not have to guess at things you don't understand. If you have questions, ask the person in charge of the study or study staff as you go along. Ask them to explain things in a way you can understand.

Take your time to think about it.

The decision to provide permission to allow your child to participate in the research study is up to you. If you choose to let your child be in the study, then you should sign this form. If you do not want your child to take part in this study, you should not sign the form.

What will happen during this study?

Your child will be asked to spend about 15-20 weeks in this study. The study will include 3-7 weeks where the researchers will observe your child in school before the intervention starts. During the remaining weeks, TCIT will occur in your child's classroom with your child and his or her teacher.

This study will include the following parts:

7. To make sure your child needs the intensive intervention, your child's teacher will be contacted and asked to fill out behavior rating scales. Additionally, the teacher will be given a full description of the study and will also be asked to consent to participate in the study. The school's administration will also be told about the study to get their approval and support.
8. As a part of the research, your child's classroom behavior before the intervention needs to be measured for a few weeks. The researcher will observe your child in the classroom for 3-7 weeks before TCIT starts. Your child will be told that the researcher is there to watch how his or her teacher teaches her students.
9. A meeting will take place with the researcher and the teacher to decide on the time-out procedure. You, the school's administration, and any support staff (such as school psychologist or teaching assistants) will be encouraged to attend this meeting. Time-out can cause the child and teacher discomfort. Also, many schools have regulations related

to the use of time-out. The purpose of this meeting is to decide on how to do time-out in a way that is effective and that everyone is comfortable with.

10. TCIT will start with Child-Directed Interaction (CDI), just like in PCIT. Teachers will learn the CDI skills, be coached every week by a researcher, and practice daily with your child. Once the teacher meets a certain criterion with her CDI skills, she will begin the second part of the intervention.
11. The second half of TCIT is Teacher-Directed Interaction (TDI). This is very similar to Parent-Directed Interaction (PDI). The teacher will learn how to give effective commands and how to respond when your child follows those commands and when your child does not. This will include the time-out procedure that you, the teacher, and school administration have approved. The teacher will first practice these skills while being coached by the researcher, then gradually start practicing them throughout the school day.
12. TCIT will end when the teacher meets graduation criteria with the TCIT skills and your child's behaviors have improved.

Your child will participate in all of the weekly TCIT sessions, except for the first CDI and TDI sessions, which will just include the researcher and the teacher. You, the teacher, and the researcher will decide when TCIT sessions will take place. Some examples of time when TCIT could happen include: during specials or a free period, before school, or after school. It is expected that teachers will take 8-12 weeks to meet criteria for TCIT graduation. Most TCIT sessions will take 45 minutes.

At each TCIT session, your child will be asked to participate in the therapy. Additionally, your child and his or her teacher will take place in 10 minute "special play." Teachers will complete multiple rating scales each week. Also, you will be asked to complete behavior rating scales six times during the study. The scales will be sent home with your child with an envelope. You will be asked to complete these scales and return them in a sealed envelope to the teacher, who will give it to the researcher.

How many other people will take part?

About 21 individuals will take part in this study, including seven students, seven parents, and their seven preschool teachers. The intervention will occur at each student's preschool classroom.

What other choices do you have if you decide not to let your child to take part?

If you decide not to let your child take part in this study, that is okay.

Instead of being in this research study your child can choose not to participate.

Alternatives to participating in the study include contacting your school and asking for an evaluation to determine if services are needed for your child.

Will your child be compensated for taking part in this study?

You will be given a \$10 gift card if you complete all the scheduled study visits and complete the behavior rating scales. If you withdraw for any reason from the study before completion you will be paid \$1 for each completed behavior rating scale.

What will it cost you to let your child take part in this study?

It will not cost you anything to let your child take part in the study.

What are the potential benefits to your child if you let him / her take part in this study?

The potential benefits to your child include improved classroom behavior and a better relationship between your child and his or her teacher.

We do not know if this study will help children with his or her classroom behavior, that is why we are doing this study. By volunteering you are helping us learn more about this intervention. We will learn more about what does or does not help individuals with classroom behavior problems. What we learn may help others in the future.

What are the risks if your child takes part in this study?

The following risks may occur:

Discomfort with time-out or other discipline strategies.

Embarrassment with receiving extra attention from the teacher.

Privacy cannot be guaranteed. The administration and additional school faculty will be aware of the intervention. Also, your child's progress will be shared with the school and placed in his or her records. However, this is always done when interventions take place in school.

If your child has any of these problems (e.g., discomfort, embarrassment), tell the person in charge of this study or study staff. If these problems bother or worry you, or if your child has other problems, call the person in charge of this study at 407-375-1300.

Authorization to Use and Disclose Protected Health Information

Who will see your child's health information?

In this research study, we use and share your child's health information to the extent authorized (permitted) by you. We know that this information is private. The federal privacy regulations of the Health Insurance Portability & Accountability Act (HIPAA) protect your identifiable health information. If you authorize us to use your child's information we will protect it as required by law.

This research is conducted at the University of South Florida (USF). By signing this form, you are permitting USF to use personal health information collected about your child for research purposes within the USF health care system. You are also allowing USF to share your child's personal health information with individuals or organizations other than USF who are also

involved in the research and listed below.

Who will disclose (share), receive, and/or use your child's information?

To conduct this research, USF and the people and organizations may use or share your child's information. They may only use and share your child's information:

- With the people and organizations on this list;
- With the classroom teacher and school administration;
- With you or your personal representative; and
- As allowed by law.

In addition to the people and organizations listed below in the Privacy and Confidentiality section of this document, the following groups of people may also be able to see information about your child and may use the information to conduct the research:

- The medical staff that takes care of your child and those who are part of this research study;
- Each research site for this study. This includes the research and medical staff at each site and USF;
- Additionally, there may be other people and/or organizations who may be given access to your child's personal health information. This will be limited to information related to their completion of PCIT, and their progress with TCIT. This includes your child's teacher, school administration, and other support staff.

Who else can use and share this information?

Anyone listed above may use consultants in this research and for the purpose of this study, may share your child's information with them. If you have questions about who they are, you should ask the study team. Individuals who receive your child's health information for this research study may not be required by the HIPAA Privacy Rule to protect it and may share your child's information with others without your permission. They can only do so if permitted by the laws governing them. For example, the study sponsor may share your child's information with others. If the sponsor or others share your child's information, this information may no longer be protected under the HIPAA Privacy Rule.

How will my information be used?

By signing this form, you are giving permission to use and/or share your child's health information as described in this document for any and all study/research related purposes. Your authorization to use your child's health information will not expire unless you revoke it in writing.

As part of this research, USF may collect, use, and share the following information:

- Your child's whole research record
- Your child's past, current or future medical and other health records held by USF, other health care providers or any other site affiliated with this study. This includes, their

behavior disorder diagnosis, knowledge of past therapies (PCIT), and progress during TCIT.

You can list any particular information that you do not want us to use or share in the space below. If you list nothing here, we can use and share all of the information listed above for this research but for nothing else.

For the Research Participant (you) to complete:

I am asking USF and the researchers not to include, use, or share the following health information in this research (if blank, then no information will be excluded):

Your Rights:

You can refuse to sign this form. If you do not sign this form your child will not be able to take part in this research study and therefore not be able to receive the research related interventions. However, your child's health care outside of this study and benefits will not change.

How Do I Withdraw Permission to Use My Child's Information?

You can revoke this form at any time by sending a letter clearly stating that you wish to withdraw your authorization to use of your child's health information in the research. If you revoke your permission:

- You child will no longer be a participant in this research study;
- We will stop collecting new information about your child;
- We will use the information collected prior to the revocation of your authorization. This information may already have been used or shared with other, or we may need it to complete and protect the validity of the research; and
- Staff may need to follow-up with your child if there is a medical reason to do so.

To revoke this form, please write to:

Principal Investigator
For IRB Study # 19524
13101 Bruce B. Downs Blvd.
Tampa, FL 33612-4799

While we are conducting the research study, we cannot let you see or copy the research information we have about your child. After the research is completed, you have a right to see the information about your child, as allowed by USF policies.

Privacy and Confidentiality

We will keep your child's study records private and confidential. Certain people may need to see your child's study records. By law, anyone who looks at your child's records must keep them completely confidential. The only people who will be allowed to see these records are:

The research team, including the Principal Investigator, study coordinator, and all other research staff.

Certain government and university people who need to know more about the study. For example, individuals who provide oversight on this study may need to look at your records. This is done to make sure that we are doing the study in the right way. They also need to make sure that we are protecting your rights and your safety.

Any agency of the federal, state, or local government that regulates this research. This includes the Food and Drug Administration (FDA), Florida Department of Health, and the Department of Health and Human Services (DHHS) and the Office for Human Research Protection (OHRP).

The USF Institutional Review Board (IRB) and its related staff who have oversight responsibilities for this study, staff in the USF Office of Research and Innovation, USF Division of Research Integrity and Compliance, and other USF offices who oversee this research.

We may publish what we learn from this study. If we do, we will not include your child's name. We will not publish anything that would let people know who your child is.

What happens if you decide not to let your child take part in this study?

You should only let your child take part in this study if both of you want to. You and your child should not feel that there is any pressure to take part in the study to please the study investigator or the research staff.

If you decide not to let your child take part:

Your child will not be in trouble or lose any rights he/she would normally have.

Your child will still get the same services he/she would normally have.

Your child can still get their regular services from his or her school.

You can decide after signing this informed consent form that you no longer want your child to take part in this study. We will keep you informed of any new developments which might affect your willingness to allow your child to continue to participate in the study. However, you can decide you want your child to stop taking part in the study for any reason at any time. If you decide you want your child to stop taking part in the study, tell the study staff as soon as you can.

We will tell you how to stop safely. We will tell you if there are any dangers if your child stops suddenly.

If you decide to stop, your child can continue receiving his/her regular school services and interventions.

Even if you want your child to stay in the study, there may be reasons we will need to withdraw him/her from the study. Your child may be taken out of this study if we find out it is not safe for your child to stay in the study or if your child is not coming for the study visits when scheduled. We will let you know the reason for withdrawing your child's participation in this study.

You can get the answers to your questions, concerns, or complaints.

If you have any questions, concerns or complaints about this study, call Sara Hinojosa at 407-375-1300.

If you have questions about your child's rights, general questions, complaints, or issues as a person taking part in this study, call the USF IRB at (813) 974-5638.

Consent for My Child to Participate in this Research Study

And Authorization to Collect, Use and Share His/Her Health Information for Research

It is up to you to decide whether you want your child to take part in this study. If you want your child to take part, please read the statements below and sign the form if the statements are true.

I freely give my consent to let my child take part in this study and authorize that my child's health information as agreed above, be collected/disclosed in this study. I understand that by signing this form I am agreeing to let my child take part in research. I have received a copy of this form to take with me.

Signature of Parent of Child Taking Part in Study

Date

Printed Name of Parent of Child Taking Part in Study

Printed Name of the Child

Statement of Person Obtaining Informed Consent

I have carefully explained to the parent of the child taking part in the study what he or she can expect from their child's participation. I hereby certify that when this person signs this form, to the best of my knowledge, he/ she understands:

- What the study is about;
- What procedures/interventions/investigational drugs or devices will be used;
- What the potential benefits might be; and
- What the known risks might be.

I can confirm that this research subject speaks the language that was used to explain this research and is receiving an informed consent form in the appropriate language. Additionally, this subject reads well enough to understand this document or, if not, this person is able to hear and understand when the form is read to him or her. The parent signing this form does not have a medical/psychological problem that would compromise comprehension and therefore makes it hard to understand what is being explained and can, therefore, give legally effective informed consent. The parent signing this form is not under any type of anesthesia or analgesic that may cloud their judgment or make it hard to understand what is being explained and, therefore, can be considered competent to give permission to allow their child to participate in this research study.

Signature of Person Obtaining Informed Consent

Date

Printed Name of Person Obtaining Informed Consent

Appendix C: Informed Consent to Participate in Research: Teacher Participant

Information to Consider Before Taking Part in this Research Study

IRB Study # Pro0019524

You are being asked to take part in a research study. Research studies include only people who choose to take part. This document is called an informed consent form. Please read this information carefully and take your time making your decision. Ask the researcher or study staff to discuss this consent form with you, please ask him/her to explain any words or information you do not clearly understand. We encourage you to talk with your family and friends before you decide to take part in this research study. The nature of the study, risks, inconveniences, discomforts, and other important information about the study are listed below.

Please tell the study doctor or study staff if you are taking part in another research study.

We are asking you to take part in a research study called:

“Teacher Child Interaction Therapy: An Ecological Approach to Intervening with Young Children Who Display Disruptive Behaviors”

The person who is in charge of this research study is Sara Hinojosa. This person is called the Principal Investigator. However, other research staff may be involved and can act on behalf of the person in charge. She is being guided in this research by Dr. Kathy Bradley-Klug and Dr. Kathleen Armstrong.

The research will be conducted at your school.

Purpose of the study

The purpose of this study is to:

The purpose of this study is to find out if children who are participating in or have completed Parent-Child Interaction Therapy (PCIT), but still have behavior problems at school, would benefit from a similar teacher intervention. Teacher Child Interaction Therapy (TCIT) is a new intervention that has not been studied with an individual student before. However, the intervention looks very similar to PCIT, except used in a classroom with a teacher and student. PCIT is an evidence-base intervention that teaches parents how to manage their children’s behavior problems.

The Primary Investigator, who is a doctoral candidate in School Psychology at the University of South Florida, is conducting this study for a dissertation.

Should you take part in this study?

Before you decide:

Read this form and find out what the study is about.

You may have questions this form does not answer. You do not have to guess at things you don't understand. If you have questions ask the person in charge of the study or study staff as you go along. Ask them to explain things in a way you can understand.

Take your time to think about it.

This form tells you about this research study. This form explains:

- Why this study is being done.
- What will happen during this study and what you will need to do.
- Whether there is any chance of benefits from being in this study.
- The risks involved in this study.
- How the information collected about you during this study will be used and with whom it may be shared.

Taking part in this research study is up to you. If you choose to be in the study, then you should sign this informed consent form. If you do not want to take part in this study, you should not sign this form.

Why are you being asked to take part?

We are asking you to take part in this study because the parent of a student in class is interested in this study. This student and their parent are participating in or have completed PCIT and saw improvements in his or her behavior at home. However, his or her parent is concerned about their child's behavior in school. We hope that TCIT will improve your student's behavior at school like PCIT improved their behavior at home.

What will happen during this study?

You will be asked to spend about 13-20 weeks in this study. The study will include 3-7 weeks where the researchers will observe you and your student in the classroom. During the remaining weeks, TCIT will occur in your classroom with you and your student. You, the researcher, and your administration will determine when the weekly sessions will occur. The intervention sessions may occur during specials or a free period, before or after school, during an intervention period, or during a time when support staff are available to assist with your classroom.

A study visit is with the person in charge of the study or study staff. The study visits will occur at your school/classroom. There will be 13-20 study visits in all. Most study visits will take about 30 minutes. Some study visits may be longer or shorter.

This study will include the following parts:

1. To make sure your student needs the intervention, you will be contacted asked to fill out behavior rating scales. Your school's administration will also be told about the study to get their approval and support. You will be asked to meet with the study staff to tell them about your concerns with the student's behavior.
2. As a part of the research, you and your student's classroom behavior before the intervention need to be measured for a few weeks. The researcher will observe you and your student in the classroom for 3-7 weeks before TCIT starts. Your student will be told that the researcher is there to watch you teach your students. After the intervention has started, weekly observations will continue.
3. A meeting will take place with you and the researcher to discuss discipline strategies used in your classroom and decide on the time-out procedure. The parent, school administration, and any support staff (such as school psychologist or teaching assistants) will be encouraged to attend this meeting. Time-out can cause the child and teacher discomfort. Also, many schools have regulations related to the use of time-out. The purpose of this meeting is to decide on how to do time-out in a way that is effective and that everyone is comfortable with.
4. TCIT will start with a phase of called Child-Directed Interaction (CDI) that aims to improve you and your student's relationship. First, you will meet with the study staff to learn the skills you will use during this part of the intervention. This meeting will last up to 45 minutes. Then, you will practice these skills weekly with the student while begin coached by the study staff for 20-30 minutes. You will also be asked to spend 5-10 minutes daily practicing with the student.
5. After you display mastery of the CDI skills, you will start the second half of TCIT, Teacher-Directed Interaction (TDI). You will learn how to give effective commands and how to respond when your student follows those commands and when he does not. This will include the time-out procedure that you, the parent, and school administration have approved. First, the study staff will train you on the skills with a 45 minute session. Then you will first practice these skills while being coached by the researcher during 20-30 minute study sessions, then gradually start applying them throughout the school day.
6. TCIT will end when you feel confident with the TCIT skills and your student's behaviors have improved.

Total Number of Participants

About 21 individuals will take part in this study, including seven students, their seven parents, and their seven teachers. The intervention will occur at each student's preschool classroom.

Alternatives

You do not have to participate in this research study.

Alternatives to participating in the study include: referring the student to the school psychologist or asking your school's administration how to receive tiered support for your student.

Benefits

The potential benefits of participating in this research study include:

- Improved classroom behavior management.
- A better relationship with your student.

Risks or Discomfort

The following risks may occur:

- Discomfort with time-out or other discipline strategies.
- Increased stress levels due to extra time needed to participate in the study.
- Student participants may be uncomfortable or embarrassed by additional attention.
- Privacy cannot be guaranteed. The administration and additional school faculty will be aware of the intervention. Also, your student's progress will be shared with the school and placed in his or her records. However, this is typical practice in school.

If your student has any of these problems, tell the person in charge of this study or study staff. If these side effects bother or worry you, or if your child has other problems, call the person in charge of this study at 407-375-1300.

Compensation

You will be paid a total of \$50 in gift cards if you complete all the scheduled study visits and complete the behavior rating scales. If you withdraw for any reason from the study before completion you will be paid \$2 for each complete study visit.

Cost

There will be no additional costs to you as a result of being in this study.

Privacy and Confidentiality

We will keep your study records private and confidential. Certain people may need to see your study records. By law, anyone who looks at your records must keep them completely confidential. The only people who will be allowed to see these records are:

The research team, including the Principal Investigator, study coordinator, research nurses, and all other research staff.

Certain government and university people who need to know more about the study. For example, individuals who provide oversight on this study may need to look at your records. This is done to make sure that we are doing the study in the right way. They also need to make sure that we are protecting your rights and your safety.

Any agency of the federal, state, or local government that regulates this research. This includes the Food and Drug Administration (FDA), Florida Department of Health, and the Department of Health and Human Services (DHHS) and the Office for Human Research Protection (OHRP).

Board (IRB) and its related staff who have oversight responsibilities for this study, staff in the USF Office of Research and Innovation, USF Division of Research Integrity and Compliance, and other USF offices who oversee this research.

Student data related to progress made in the intervention will be shared with the school and placed in the student's record.

We may publish what we learn from this study. If we do, we will not include your name. We will not publish anything that would let people know who you are.

Voluntary Participation / Withdrawal

You should only take part in this study if you want to volunteer. You should not feel that there is any pressure to take part in the study. You are free to participate in this research or withdraw at any time. There will be no penalty or loss of benefits you are entitled to receive if you stop taking part in this study. Decision to participate or not to participate will not affect your job status.

New information about the study

During the course of this study, we may find more information that could be important to you. This includes information that, once learned, might cause you to change your mind about being in the study. We will notify you as soon as possible if such information becomes available.

You can get the answers to your questions, concerns, or complaints.

If you have any questions, concerns or complaints about this study, call Sara Hinojosa at 407-375-1300.

If you have questions about your rights, general questions, complaints, or issues as a person taking part in this study, call the USF IRB at (813) 974-5638.

Consent to Take Part in Research

It is up to you to decide whether you want to take part in this study. If you want to take part, please read the statements below and sign the form if the statements are true. I freely give my consent to take part in this study and authorize that my health information as agreed above, be collected/disclosed in this study. I understand that by signing this form I am agreeing to take part in research. I have received a copy of this form to take with me.

Signature of Person Taking Part in Study

Date

Printed Name of Person Taking Part in Study

Statement of Person Obtaining Informed Consent and Research Authorization

I have carefully explained to the person taking part in the study what he or she can expect from their participation. I hereby certify that when this person signs this form, to the best of my knowledge, he/ she understands:

- What the study is about;
- What procedures/interventions will be used;
- What the potential benefits might be; and
- What the known risks might be.

I can confirm that this research subject speaks the language that was used to explain this research and is receiving an informed consent form in the appropriate language. Additionally, this subject reads well enough to understand this document or, if not, this person is able to hear and understand when the form is read to him or her. This subject does not have a medical/psychological problem that would compromise comprehension and therefore makes it hard to understand what is being explained and can, therefore, give legally effective informed consent. This subject is not under any type of anesthesia or analgesic that may cloud their judgment or make it hard to understand what is being explained and, therefore, can be considered competent to give informed consent.

Signature of Person Obtaining Informed Consent

Date

Printed Name of Person Obtaining Informed Consent

Appendix D: Intervention Protocol
Teacher Child Interaction Therapy

Intervention Manual

Sara Hinojosa, M.A.

Julia Ogg, Ph.D.

Kathleen Armstrong, Ph.D.

Kathy Bradley-Klug, Ph.D.

John Ferron, Ph.D.

School Psychology Program, College of Education
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Pre-Treatment Assessment and Consultation Session

Before the session

1. Gather assessment materials
2. Review referral information

Session goals

1. Gain knowledge of the specific student behaviors of concern
2. Gain information about current classroom management strategies
3. Address scheduling issues
4. Provide the teacher with additional information about the intervention
5. Establish rapport with the teacher

Session Outline

1. Spend a few minutes with introductions and discussion to establish rapport
2. Ask teacher to complete behavior rating scales
3. Interview teacher regarding
 - a. Target student's behavior problems
 - b. Current classroom management strategies and/or her approach to instruction
 - c. Past interventions or strategies used with the target student
 - i. What has worked?
 - ii. What hasn't worked?
 - iii. How did you know?
 - d. Any successful past experiences with students who have behavior problems similar to the target student
4. Provide an overview of TCIT
 - a. Aims to improve the teacher-student relationship and to help the teacher apply some effective behavior management techniques in her classroom
 - b. Begins with CDI, where the teacher will learn some play therapy techniques to make sure the student feels nurtured and secure in the relationship
 - c. Followed by TDI, where the teacher will learn a variety of behavior management strategies.
 - d. Each phase will start with a teach session, where the psychologist will explain and role play the skills with the teacher.
 - e. After the teach sessions, coaching sessions will take place. The first 5 minutes of those sessions, the psychologist will observe and record the teacher's use of the skills. Then the psychologist will coach the teacher for at least 10 minutes using an over-the-shoulder technique. After coaching, the teacher will complete a progress monitoring measure and have a short feedback session discussing the progress made.
 - f. Address any questions or concerns the teacher may have
5. Discuss the time and resource demands on the teacher

- a. Since this is an intensive intervention, it will require a fair amount of investment from the teacher. However, she will hopefully be able to use these skills with the target student and students in the future.
 - b. Will need to have an initial meeting to discuss time-out
 - i. Time-out is used as part of this intervention. Many schools have specific guidelines related to the use of time-out in the classroom.
 - ii. A meeting will take place to collaboratively determine the time-out procedure. Those invited to this meeting will include
 1. The teacher
 2. Any teaching assistants or support staff who may help with time-out
 3. The school administration
 4. The student's parent
 - c. Teach sessions
 - i. Will last up to 45 minutes
 - ii. Can happen at any time or place, as long as the teacher and psychologist can talk without disruption
 - iii. Examples of times for teach sessions: planning periods, before or after school, lunch
 - d. Coach sessions
 - i. The length will depend on what is feasible for the teacher
 - ii. Last at least 20 minutes
 - iii. TDI sessions that include time-out, especially at the beginning, may take longer and should be scheduled accordingly.
 - iv. Other coach sessions should take place:
 1. At a time when the teacher can dedicate her full attention to the student (i.e., a teaching assistant is instructing the other students, or at a time when class is not in session)
 2. In the classroom to generalize the skills
 3. Examples of times for coach sessions: during specials or free time, during recess, when a teaching assistant can lead the class
 - e. Brainstorm with the teacher potential times for the intervention components and what is needed to put a schedule in place. Create an action plan for setting up the TCIT schedule.
6. Address any concerns or questions and problem-solve any obstacles the teacher may identify
 7. Reaffirm the purpose of TCIT is to build the teacher's skills to work with this student and students in the future. The psychologist is there to support the teacher and she should feel free to bring up any concerns she may have throughout the process.
 8. Schedule the CDI Teach and create an action plan to schedule the time-out planning meeting.

Integrity Checklist for Pre-Treatment Assessment

ITEM	Yes	N/A	No
Attempt to establish rapport			
Administered SESBI-R to teacher			
Gain information about: student's problem behaviors			
Classroom management strategies			
Past experience with problem behaviors			
Provide overview of TCIT			
Assess time and resource demands			
Address questions/concerns			
Reaffirm psychologist's support of teacher			
Schedule CDI Teach			
Schedule the time-out planning meeting			

CDI Teach Session

Before the session:

1. Prepare assessment materials
2. Prepare CDI skill handouts and homework sheets

Session Goals:

1. Continue to establish rapport with the teacher
2. Further explain the CDI procedures
3. Teach the CDI skills
4. Provide a rationale for each skill and CDI
5. Establish CDI schedule

Session Outline:

1. Check in with the teacher to discuss any concerns they may have that week related to or outside of the intervention session. This is to gain rapport. Make sure not to spend more than five minutes discussing stressors.
2. Give overview of CDI
 - a. Teaches you skills similar to those used by play therapists to build a good relationship with young children. They help children feel safe and calm.
 - b. Teaches you how to improve a student's behavior with just your positive attention.
 - c. Teaches you how to communicate with children and extend their attention spans
 - d. Helps you teach your student without frustrating either you or them
 - e. Improves the student's self-esteem
 - f. Teaches the student how to play appropriately with others
 - g. Results in a warm, secure relationship between you and the student, which is often strained with disruptive students.
3. Student-Teacher relationships are important
 - a. Relationships can be difficult for children with challenging behaviors and the significant adults in their lives. However, these relationships are even more important for these children.
 - b. Positive teacher-student relationships contribute to:
 - i. Better student outcomes
 - c. Easier classroom behavior management
 - d. More student compliance
 - e. Increases in teachers' job satisfaction, self-efficacy, and emotional well-being
4. Explain why CDI is done first
 - a. Once the student becomes calmer and enjoys special time with you, it will be easier for him/her to accept limits and discipline.

- b. CDI skills are used throughout the intervention. The skills are broken into two sessions so that you can master one set of skills before adding on a second set of skills.
5. The Basic Skill of CDI
 - a. CDI is called child-directed interaction because that is the main purpose of this part of the intervention. The Basic Skill of CDI is to follow the child's lead.
 - b. CDI is also called "special play" because this is supposed to be an enjoyable time for you and your student.
 - c. Some of the skills you can use at any time, others you will use only during special play.
 6. Go over the Don't and PRIDE Skills
 - a. Don't Skills
 - i. Avoid commands
 - ii. Avoid questions
 - iii. Avoid criticism
 - iv. Ask teacher to repeat the three Don't skills
 - b. Do Skills, aka PRIDE skills
 - i. P is for Labeled Praise
 - ii. R is for Reflections
 - iii. I is for Imitate
 - iv. D is for Describe
 - v. E is for Enthusiasm!
 - vi. Ask teacher to recall the PRIDE skills
 7. Ignore inappropriate behavior that is not aggressive or destructive
 8. Combine ignoring with the DO skills
 9. If a negative behavior cannot be ignored, end the play
 10. Role-play CDI
 11. Decide on how to set up CDI in the classroom and what toys will be used
 12. Explain the purpose of practicing special play each day for 5 minutes
 13. Have the teacher decide when/where they will do special play
 14. Give CDI homework sheets

Integrity Checklist for CDI Teach

ITEM	Yes	N/A	No
Attempt to establish rapport			
Overview CDI			
Discuss importance of student-teacher relationships			
Explain why CDI is done first			
Explain the Basic Skill of CDI			
Define and provide rationale for avoiding the DON'T skills			
Define and provide rationale for using the PRIDE skills			
Explain how to respond to inappropriate behaviors			
Role-play CDI			
Set up CDI in the classroom			
Establish daily special play			
Give CDI homework			

First CDI Coach Session

Before the session:

1. Set up toys in play area and a place for the psychologists to sit and coach
2. Prepare assessment materials and homework sheets
3. Prepare coding sheet

Session Goals:

1. Strengthen rapport with the teacher
2. Establish the importance of special play
3. Build teacher confidence with CDI skills

Session Outline:

1. Check in with the teacher to discuss any concerns they may have that week related to or outside of the intervention session. This is to gain rapport. Make sure not to spend more than five minutes discussing stressors.
2. Orient child to CDI
 - a. Tell the child that he/she and the teacher are going to have some special time playing together, just like he/she plays with his/her parents
 - b. Tell the child that the psychologist will be sitting in a chair and telling the teacher things to say while you play together, but the child should try to ignore the psychologist.
 - c. If the child tries to talk to or play with the psychologist ignore the child
3. Code teacher and child in CDI for 5 minutes. Tell the teacher that she will not be coached for those five minutes.
4. Provide feedback on progress (<1 minute)
 - a. Share number of each skill
 - b. Set goals for coaching
5. Coach teacher
 - a. Since it is the first session, give only positive feedback and ignore mistakes
 - b. Near end of coaching, have teacher prompt the child that special play is almost over and say some things that went well
 - c. End coach and have student return to class activity
6. Have teacher complete SESBI-R (if not completed earlier)
7. Discuss progress, review homework sheets, and address any questions or concerns
8. Give new homework sheet and confirm next CDI Coach

Integrity Checklist for First CDI Coach

ITEM	Yes	N/A	No
Attempt to establish rapport			
Orient child to CDI			
Code teacher and child in CDI for 5 minutes			
Briefly provide feedback on progress			
Coach teacher on CDI skills			
Administer the SESBI-R to the teacher			
Discuss progress of student behavior and teacher skills			
Review past homework sheets			
Address any concerns/question			
Give CDI homework			

Additional CDI Coach Sessions

Before the Session:

1. Set up toys in play area and a place for the psychologists to sit and coach
2. Prepare assessment materials and homework sheets
3. Prepare coding sheet

Session Goals:

1. Continue to stress the importance of homework
2. Continue to shape teacher's use of CDI skills
3. Instill positive expectations for mastery

Session Outline:

1. Check in with the teacher to discuss any concerns they may have that week related to or outside of the intervention session. This is to gain rapport. Make sure not to spend more than five minutes discussing stressors.
2. Remind child to ignore psychologist
3. Code teacher and child in CDI for 5 minutes. Tell the teacher that she will not be coached for those five minutes.
4. Provide feedback on progress (<1 minute)
 - a. Share number of each skill
 - b. Set goals for coaching
5. Coach teacher
 - a. Focus on priority skills
 - b. Near end of coaching, have teacher prompt the child that special play is almost over and say some things that went well
 - c. End coach and have student return to class activity
6. Have teacher complete SESBI-R (if not completed earlier)
7. Discuss progress, review homework sheets, and address any questions or concerns
 - a. Review mastery criteria
 - b. When mastery criteria are met, discuss the transition to TDI
8. Give new homework sheet and confirm next CDI Coach or TDI Teach

Mastery Criteria:

1. During 5 minute coding interval, use of 10 behavior descriptions, 10 reflections, and 10 labeled praises with less than 3 questions, commands or criticisms.
2. Appropriate use of differential reinforcement

Integrity Checklist for Additional CDI Coach Sessions

ITEM	Yes	N/A	No
Attempt to establish rapport			
Remind child to ignore psychologist			
Code teacher and child in CDI for 5 minutes			
Briefly provide feedback on progress			
Coach teacher on CDI skills			
Administer the SESBI-R to the teacher			
Discuss progress of student behavior and teacher skills			
Review past homework sheets			
Address any concerns/question			
Give CDI homework			

Time-Out Meeting

Before Session:

1. Schedule meeting to try to accommodate the teacher, parent, administration and involved support staff
2. Review current behavior strategies, any school or district guidelines regarding time-out, and best practice related to time-out

Session Goals:

1. Establish rapport and a collaborative relationship
2. Collaboratively develop a time-out procedure to use in the classroom

Session Outline:

1. Attendees introduce themselves
2. Share the purpose of the meeting
 - a. To establish a time-out procedure that all parties are comfortable with
 - b. Incorporate current classroom strategies
3. Ask the teacher to share any similar strategies that she uses in the classroom
4. Ask the administrator to share any school or district policies related to time-out
5. Discuss the effectiveness and purpose of time-out
6. Share the PCIT time-out procedure, and example Sit & Watch or classroom time-out procedures
7. Agree upon a time-out procedure to use in the classroom
 - a. Display the core components
 - b. Collaboratively discuss and agree on adaptations for each core component that everyone is comfortable with, is feasible with the given resources, and maintains the elements that make time-out effective
8. Thank everyone for their time and help

Integrity Checklist for Time-Out Planning Sessions

ITEM	Yes	N/A	No
Attempt to establish rapport and introduce all attendees			
Share the purpose of the meeting			
Ask teacher to share her behavior management strategies			
Ask administrator to share school/district time-out policies			
Discuss effectiveness and purpose of time out			
Share example timeout procedures			
Agree upon time out procedure			
Thank everyone for time and input			

TDI Teach Session

Before the Session:

1. Carefully review all information, especially referral behaviors and established discipline strategies
2. Carefully review agreed upon time-out procedure
3. Set up area to role play time-out procedure

Session Goals:

1. Teach all of the steps of TDI
2. Provide rationale for each step
3. Communicate the gradual progression of learning TDI skills during sessions and gradually applying them in the classroom

Session Outline:

1. Check in with the teacher to discuss any concerns they may have that week related to or outside of the intervention session. This is to gain rapport. Make sure not to spend more than five minutes discussing stressors.
2. Give overview of TDI
 - a. Teaches you how to effectively give commands that increase the chance that the student will comply.
 - b. Teaches how to discipline with a method that emphasizes consistency, predictability, and follow through
 - c. Teachers must give many commands throughout the day. It is important that they can discipline without diminishing the student-teacher relationship
3. Giving effective commands
 - a. Direct rather than indirect
 - b. Stated positively
 - c. Given for one thing at a time
 - d. Specific
 - e. Developmentally appropriate
 - f. Given calmly and in a normal tone of voice
 - g. Explanations should be used either before command is given or after the student has obeyed
 - h. Used only when compliance is necessary
 - i. Will practice giving play related commands, and each week progress to real-life situations
4. After a command
 - a. 5-second dawdling rule
 - b. Ask what to do when student complies
 - i. Use labeled praise
 - ii. Continue to use PRIDE skills in between commands
 - c. Describe what to do when child does not comply

- i. Give 5 seconds
 - ii. Describe the use of time-out in depth according to the agreed upon procedure
5. Role-play time-out
6. Remind teacher not to begin using time-out with student in classroom yet
 - a. It is important that time-out go perfectly the first time
 - b. Also, it can be difficult to do, so the psychologist wants to be there to support and coach the teacher until she feels comfortable doing it on her own
7. Describe the next TDI session
 - a. Extra time for time-out may be necessary, so determine if this week needs to be re-scheduled
 - b. TDI will be explained to the child at the beginning of the next session
8. Give the TDI homework sheets and have teacher complete SESBI-R

Integrity Checklist for TDI Teach

ITEM	Yes	N/A	No
Attempt to establish rapport			
Overview TDI			
Explain how to give effective commands			
Explain how to respond to compliance			
Explain how to respond to non-compliance, incorporating the agreed upon time out procedure			
Role play TDI			
Remind teacher to not use time out yet			
Describe the next TDI session			
Administer SESBI-R			
Give TDI homework			

First TDI Coach Session

Before Session:

1. Set up toys in play area and a place for the psychologists to sit and coach
2. Prepare assessment materials and homework sheets
3. Prepare coding sheet
4. Obtain a doll or stuffed animal to demonstrate TDI to student

Session Goals:

1. Have teachers practice TDI procedure with child with intensive coaching to assure correct implementation of child's first TDI experience
2. Teachers learn exact TDI procedure

Session Outline:

1. Check in with the teacher to discuss any concerns they may have that week related to or outside of the intervention session. This is to gain rapport. Make sure not to spend more than five minutes discussing stressors.
2. Orient child to TDI
 - a. Tell the child that he/she are going to practice listening to the teacher. When you listen, everyone gets along and can continue to play, learn, and have fun.
 - b. Tell the child that he/she doesn't listen, they will go to the time-out chair
 - c. Demonstrate the time-out procedure with the doll or stuffed animal
 - d. Remind the child that the psychologist will be coaching the teacher, but he/she should just ignore the psychologist
3. Coach the teacher and child in CDI for 5 minutes to have the dyad playing comfortably
4. Coach teacher in TDI while recording the process
 - a. Give teacher directions for introducing TDI to the student, "Now it's my turn to choose what we play, and we are going to practice listening."
 - b. Have teacher give child an effective, simple command
 - c. Continue coaching in TDI for at least 10 minutes
 - d. Near end of coaching, have teacher prompt the child that special play is almost over and say some things that went well
 - e. End coach and have student return to class activity
5. Have teacher complete SESBI-R (if not completed earlier)
6. Discuss progress, review homework sheets, and address any questions or concerns
 - a. Decide with teacher the comfort level with TDI
 - b. If comfortable, have teacher use TDI during special play
7. Give new homework sheet and confirm next TDI Coach

Integrity Checklist for First TDI Coach

ITEM	Yes	N/A	No
Continue to maintain rapport			
Orient child to TDI			
Coach teacher and child in CDI for 5 minutes			
Coach teacher on TDI skills using simple effective commands			
Administer the SESBI-R to the teacher			
Discuss progress of student behavior and teacher skills			
Review past homework sheets			
Determine comfort with TDI and use in special play			
Give TDI homework			

Second TDI Coach Session

Before Session:

1. Set up toys in play area and a place for the psychologists to sit and coach
2. Prepare assessment materials and homework sheets
3. Prepare coding sheet

Session Goals:

1. Have teachers practice TDI procedure with child and work towards mastery
2. Begin to move from play commands to real life commands

Session Outline:

1. Check in with the teacher to discuss any concerns they may have that week related to or outside of the intervention session. This is to gain rapport. Make sure not to spend more than five minutes discussing stressors.
2. Coach the teacher and child in CDI for 5 minutes to have the dyad playing comfortably
3. Coach teacher in TDI while recording the process
 - a. Give teacher directions for introducing TDI to the student, “Now it’s my turn to choose what we play, and we are going to practice listening.”
 - b. Have teacher give child an effective, simple command
 - c. Continue coaching in TDI for at least 10 minutes, incorporate real-life commands
 - d. Near end of coaching, have teacher give an effective command to clean up the toys
 - e. End coach with a labeled praise and the teacher telling the student something that went well. Have student return to class activity
4. Have teacher complete SESBI-R (if not completed earlier)
5. Discuss progress, review homework sheets, and address any questions or concerns
 - a. Decide with teacher the comfort level with TDI
 - b. If comfortable, have teacher do clean-up during special play
6. Give new homework sheet and confirm next TDI Coach

Integrity Checklist for Second TDI Coach

ITEM	Yes	N/A	No
Continue to maintain rapport			
Coach teacher and child in CDI for 5 minutes			
Coach teacher on TDI skills incorporating real life commands and clean up			
Administer the SESBI-R to the teacher			
Discuss progress of student behavior and teacher skills			
Review past homework sheets			
Determine comfort with TDI and using clean up in special play			
Give TDI homework			

Third TDI Coach Session

Before Session:

1. Set up toys in play area and a place for the psychologists to sit and coach
2. Prepare assessment materials and homework sheets
3. Prepare coding sheet

Session Goals:

1. Review the effect the intervention has had on the child's behavior
2. Continue to strengthen the teacher's CDI and TDI skills
3. Begin generalization of TDI skills beyond coaching sessions

Session Outline:

1. Check in with the teacher to discuss any concerns they may have that week related to or outside of the intervention session. This is to gain rapport. Make sure not to spend more than five minutes discussing stressors.
2. Coach the teacher and child in CDI for 5 minutes to have the dyad playing comfortably
3. Coach teacher in TDI while recording the process
 - a. Give teacher directions for introducing TDI to the student, "Now it's my turn to choose what we play, and we are going to practice listening."
 - b. Have teacher give child an effective, simple command
 - c. Continue coaching in TDI for at least 10 minutes, incorporate real-life commands
 - d. Near end of coaching, have teacher give an effective command to clean up the toys
 - e. End coach with a labeled praise and the teacher telling the student something that went well. Have student return to class activity
4. Have teacher complete SESBI-R (if not completed earlier)
5. Discuss progress, review homework sheets, and address any questions or concerns
 - a. Discuss the progress student has made with compliance in and out of special play
 - b. Introduce generalization of TDI outside of special play
 - i. Decide on a setting the teacher can start to use special play
 - ii. During a less structured time, such as free-time or recess
6. Give new homework sheet and confirm next TDI Coach

Integrity Checklist for Third TDI Coach

ITEM	Yes	N/A	No
Continue to maintain rapport			
Coach teacher and child in CDI for 5 minutes			
Coach teacher on TDI skills incorporating real life commands and clean up			
Administer the SESBI-R to the teacher			
Discuss progress of student behavior and teacher skills			
Review past homework sheets			
Discuss student progress			
Decide on an additional setting to apply TDI outside of special play			
Give TDI homework			

Fourth TDI Coach Session

Before Session:

1. Set up toys in play area and a place for the psychologists to sit and coach
2. Prepare assessment materials and homework sheets
3. Prepare coding sheet

Session Goals:

1. Review the effect the intervention has had on the child's behavior
2. Continue to strengthen the teacher's CDI and TDI skills
3. Begin generalization of TDI skills to entire school day

Session Outline:

1. Check in with the teacher to discuss any concerns they may have that week related to or outside of the intervention session. This is to gain rapport. Make sure not to spend more than five minutes discussing stressors.
2. Coach the teacher and child in CDI for 5 minutes to have the dyad playing comfortably
3. Coach teacher in TDI while recording the process
 - a. Give teacher directions for introducing TDI to the student, "Now it's my turn to choose what we play, and we are going to practice listening."
 - b. Have teacher give child an effective, simple command
 - c. Continue coaching in TDI for at least 10 minutes, incorporate real-life commands
 - d. Near end of coaching, have teacher give an effective clean up command
 - e. End coach with a labeled praise and the teacher telling the student something that went well. Have student return to class activity
4. Have teacher complete SESBI-R (if not completed earlier)
5. Discuss progress, review homework sheets, and address any questions or concerns
 - a. Discuss the progress student has made with compliance in and out of special play
 - b. Introduce generalization of TDI to entire school day
 - i. Problem-solve any issues with time-out last week and discuss generalizing to the whole school day
 - ii. Provide additional tips to using time-out in a whole group setting
 1. If time is not available for time-out, use when-then statements instead of commands (e.g., when everyone is lined up at the door, then we can go to lunch)
 2. Instead of giving target student a command for small behavior problems (e.g., sitting in his seat), praise the appropriate behavior of other children
 3. Try to prevent problem behaviors from happening and redirect when you see issues starting. If necessary schedule time to help teacher establish preventions.

6. Give new homework sheet and confirm next TDI Coach

Integrity Checklist for Fourth TDI Coach

ITEM	Yes	N/A	No
Continue to maintain rapport			
Coach teacher and child in CDI for 5 minutes			
Coach teacher on TDI skills incorporating real life commands and clean up			
Administer the SESBI-R to the teacher			
Discuss progress of student behavior and teacher skills			
Review past homework sheets			
Discuss student progress			
Problem solve any time out concerns			
Discuss implementing time out throughout whole school day			
Provide additional strategies to prevent noncompliance			
Give TDI homework			

Fifth TDI Coach Session

Before Session:

1. Set up toys in play area and a place for the psychologists to sit and coach
2. Prepare assessment materials and homework sheets
3. Prepare coding sheet

Session Goals:

1. Review the effect the intervention has had on the child's behavior, identify any remaining concerns
2. Assist the teacher with mastery of CDI and TDI skills
3. Establish classroom rules, if necessary

Session Outline:

1. Check in with the teacher to discuss any concerns they may have that week related to or outside of the intervention session. This is to gain rapport. Make sure not to spend more than five minutes discussing stressors.
2. Coach the teacher and child in CDI for 5 minutes to have the dyad playing comfortably
3. Coach teacher in TDI while recording the process
 - a. Give teacher directions for introducing TDI to the student, "Now it's my turn to choose what we play, and we are going to practice listening."
 - b. Have teacher give child an effective, simple command
 - c. Continue coaching in TDI for at least 10 minutes, incorporate real-life commands
 - d. Near end of coaching, have teacher give an effective command to clean up the toys
 - e. End coach with a labeled praise and the teacher telling the student something that went well. Have student return to class activity
4. Have teacher complete SESBI-R (if not completed earlier)
5. Discuss progress, review homework sheets, and address any questions or concerns
 - a. Discuss the progress student has made with compliance and the number of times time-out is needed
 - b. Discuss the presence of other disruptive behaviors (e.g., aggression, destruction). If present, establish classroom rules
 - i. Operationally define the behavior
 - ii. Label the behavior for the student for 2-3 days
 - iii. When ready to start, explain new classroom rule at a neutral time
 - iv. Every time the student breaks the classroom rule, he/she goes to time-out without a warning
6. Give new homework sheet and confirm next TDI Coach

Integrity Checklist for Fifth TDI Coach

ITEM	Yes	N/A	No
Continue to maintain rapport			
Coach teacher and child in CDI for 5 minutes			
Coach teacher on TDI skills incorporating real life commands and clean up			
Administer the SESBI-R to the teacher			
Discuss progress of student behavior and teacher skills			
Review past homework sheets			
Discuss student progress			
Problem solve any time out concerns			
Discuss additional behavior concerns			
If applicable, establish classroom rule			
Give TDI homework			

Additional TDI Coach Sessions

Before Session:

1. Set up toys in play area and a place for the psychologists to sit and coach
2. Prepare assessment materials and homework sheets
3. Prepare coding sheet

Session Goals:

1. Review the effect the intervention has had on the child's behavior, identify any remaining concerns
2. Assist the teacher with mastery of CDI and TDI skills
3. Prepare teacher for graduation

Session Outline:

1. Check in with the teacher to discuss any concerns they may have that week related to or outside of the intervention session. This is to gain rapport. Make sure not to spend more than five minutes discussing stressors.
2. Coach the teacher and child in CDI for 5 minutes to have the dyad playing comfortably
3. Coach teacher in TDI while recording the process
 - a. Give teacher directions for introducing TDI to the student, "Now it's my turn to choose what we play, and we are going to practice listening."
 - b. Have teacher give child an effective, simple command
 - c. Continue coaching in TDI for at least 10 minutes, focus on skills that have not reached mastery criteria
 - d. Near end of coaching, have teacher give an effective command to clean up the toys
 - e. End coach with a labeled praise and the teacher telling the student something that went well. Have student return to class activity
4. Have teacher complete SESBI-R (if not completed earlier)
5. Discuss progress, review homework sheets, and address any questions or concerns
 - a. Discuss the progress student has made with compliance and the number of times time-out is needed
 - b. Discuss progress with classroom rule
 - c. Determine teacher's comfort and efficacy with TDI skills, try to encourage confidence and highlight how to work towards graduation
6. Give new homework sheet and confirm next TDI Coach

Mastery Criteria:

1. CDI skills mastery
2. TDI skills mastery (75% effective commands and 75% accurate follow-through)
3. Sub-clinical ratings of child's problem behaviors ($T < 55$)
4. Teacher self-efficacy in managing problem behaviors

Integrity Checklist for Additional TDI Coach

ITEM	Yes	N/A	No
Continue to maintain rapport			
Coach teacher and child in CDI for 5 minutes			
Coach teacher on TDI skills incorporating real life commands and clean up			
Administer the SESBI-R to the teacher			
Discuss progress of student behavior and teacher skills			
Review past homework sheets			
If applicable, discuss progress with classroom rules			
Encourage teacher confidence and progress towards mastery criteria			
Give TDI homework			

Teacher Handouts and Homework Sheets



PRIDE Skills

Skill	Description	Examples
P <u>PRAISE</u> appropriate behavior	Labeled Praise needs to be: <ul style="list-style-type: none"> • Specific • Immediately after the behavior or when taking steps towards more appropriate behavior (it doesn't have to be perfect.) • Focus on the effort and strategies used to perform the task, not ability Praise <ul style="list-style-type: none"> • Increases the behavior it follows • Increases child's self-esteem • Adds warmth to the interaction • Helps create positive classroom climate and increase student motivation and persistence • Makes the teacher and child feel good 	<ul style="list-style-type: none"> • Good job using your walking feet. • I like it when you play gently. • Thank you for sharing with me. • Smart idea to put the doll in the tower!
R <u>REFLECT</u> appropriate talk	<ul style="list-style-type: none"> • Repeating/paraphrasing what the student says, "Yes, that's a blue crayon" • Allows child to lead the conversation • Shows child you're really listening • Helps you learn to listen • Shows you accept/understand what child is saying • Improves and increases child's speech and language • May feel awkward at first, but becomes natural pretty quickly 	<ul style="list-style-type: none"> • Child: This house has three rooms! Teacher: Yes, that house does have three rooms! • Child: I like these dolls. Teacher: You're having fun playing with the dolls. • Child: These trucks have big wheels. Teacher: Those trucks do have big wheels.
I <u>IMITATE</u> appropriate play	<ul style="list-style-type: none"> • Doing exactly what the child is doing, such as drawing a tree if your child is drawing a tree • Helps you keep your attention/comments focused on what your student is doing • Helps you play right at your student's developmental level • Lets the child lead play • Makes the play fun for the child • Shows your approval of the child's activity • Teaches the child how to play well with others 	<ul style="list-style-type: none"> • You drew a house, I'm going to draw a house too. • I am putting a doll on the tower, too.
D <u>DESCRIBE</u> appropriate behavior	<ul style="list-style-type: none"> • State exactly what the child is doing • Like a sports announcer, a running commentary • Lets the child lead • Lets the student know you're interested and paying attention to him/her • Lets student know you approve of what he/she is doing • Models speech and teachers vocabulary and concepts • Holds the child's attention to the task and teaches child how to hold his/her attention to a task 	<ul style="list-style-type: none"> • You're stacking the blocks. • You put Mr. Potato Head's hat on. • You are rolling that truck across the carpet.
E <u>ENTHUSIASTIC</u> Be	<ul style="list-style-type: none"> • Let your voice show excitement about your student's appropriate behavior • Lets the child know that you are enjoying the time you are spending together • Increases the warmth of your play 	<ul style="list-style-type: none"> • You are being so nice to share with me! • I like playing nicely with you!

Adapted from the PCIT Treatment Manual (Eyberg, 1999)



How did it go?

Skill	Practice	Questions/Comments
<u>PRAISE</u> appropriate behavior P	Did you use this skill? ___ Yes ___ No How hard was this skill for you? ___ Easy ___ Moderate ___ Hard	
<u>REFLECT</u> appropriate talk R	Did you use this skill? ___ Yes ___ No How hard was this skill for you? ___ Easy ___ Moderate ___ Hard	
<u>IMITATE</u> appropriate play I	Did you use this skill? ___ Yes ___ No How hard was this skill for you? ___ Easy ___ Moderate ___ Hard	
<u>DESCRIBE</u> appropriate behavior	Did you use this skill? ___ Yes ___ No How hard was this skill for you? ___ Easy ___ Moderate ___ Hard	
Be <u>ENTHUSIASTIC</u> E	Did you use this skill? ___ Yes ___ No How hard was this skill for you? ___ Easy ___ Moderate ___ Hard	

Adapted from the PCIT Treatment Manual (Eyberg, 1999)

Rules for Effective Commands

Rule	Description	Examples
<u>Direct</u> rather than indirect	<ul style="list-style-type: none"> Do not use questions, make it clear that the student is being told to do something. Do not give the child a choice or suggest it is an option. Reduces confusion for young children. 	<ul style="list-style-type: none"> Please hand me the doll. Put the toy in the cubby. Draw a house. <p>Instead of:</p> <ul style="list-style-type: none"> Can you hand me the doll? Let's put away the toys. Would you like to draw a house?
<u>Positively</u> stated	<ul style="list-style-type: none"> Tell child what to do, rather than what not to do. Do not criticize the child's behavior Provide a clear description of what the child should do 	<ul style="list-style-type: none"> Sit in your chair. Walking feet! Hands on your desk <p>Instead of:</p> <ul style="list-style-type: none"> Don't walk around the room Don't run! Stop touching your neighbor.
Given <u>one at a time</u>	<ul style="list-style-type: none"> Too many commands can be hard for young children to remember. 	<ul style="list-style-type: none"> Put your pencil away. Go to your seat. <p>Instead of:</p> <ul style="list-style-type: none"> Put your pencils away, put your papers in your folder, and make your way to the carpet. Go to your seat and get out a piece of paper and your crayons.
<u>Specific</u>	<ul style="list-style-type: none"> Allows children to know exactly what they're supposed to do. 	<ul style="list-style-type: none"> Talk in a quiet voice Listen to the story <p>Instead of:</p> <ul style="list-style-type: none"> Behave Pay attention

Adapted from the PCIT Treatment Manual (Eyberg, 1999)



Rules for Effective Commands

Rule	Description	Examples
Should be <u>age-appropriate</u>	<ul style="list-style-type: none"> Make sure vocabulary is appropriate and students understand the command. Can break apart into several steps 	<ul style="list-style-type: none"> Put the yellow blocks in the orange box. Thank you for listening, Now put the green blocks in the blue box. Thank you for listening, etc. Draw a circle <p>Instead of:</p> <ul style="list-style-type: none"> Sort the block by colors and place them neatly in the appropriate place. Form a round shape on your paper
Given <u>politely and respectfully</u>	<ul style="list-style-type: none"> Use a normal tone of voice. You can start off with please! Do not yell, be harsh or be sarcastic Increases the chance that the student will listen Teaches children to obey polite and respectful commands, not only when they are yelled at 	<ul style="list-style-type: none"> Please hand me your paper <p>Instead of:</p> <ul style="list-style-type: none"> Give me your paper right now!
Should be explained before they are stated, or after they are obeyed	<ul style="list-style-type: none"> Avoids the child asking "why" as a delay tactic Prevents having to give child attention for not obeying 	<ul style="list-style-type: none"> It's lunch time, line up at the door. <p>Instead of:</p> <ul style="list-style-type: none"> Teacher: Line up at the door Child: Why? Where are we going? Teacher: Lunch Child: I have a yummy lunch (turns to neighbor) want to hear about all of my food.
Use only when necessary	<ul style="list-style-type: none"> Decreases the child's frustration 	<ul style="list-style-type: none"> Sit in your seat <p>Instead of:</p> <ul style="list-style-type: none"> Stop tapping your pencil on the desk

Adapted from the PCIT Treatment Manual (Eyberg, 1999)



How did it go?

Rule	Practice	Questions/Comments
Direct rather than indirect	Did you use this skill? ___ Yes ___ No How hard was this skill for you? ___ Easy ___ Moderate ___ Hard	
Positively stated	Did you use this skill? ___ Yes ___ No How hard was this skill for you? ___ Easy ___ Moderate ___ Hard	
Given one at a time	Did you use this skill? ___ Yes ___ No How hard was this skill for you? ___ Easy ___ Moderate ___ Hard	
Specific	Did you use this skill? ___ Yes ___ No How hard was this skill for you? ___ Easy ___ Moderate ___ Hard	
Should be age-appropriate	Did you use this skill? ___ Yes ___ No How hard was this skill for you? ___ Easy ___ Moderate ___ Hard	
Given politely and respectfully	Did you use this skill? ___ Yes ___ No How hard was this skill for you? ___ Easy ___ Moderate ___ Hard	
Explained before they are stated, or after they are obeyed	Did you use this skill? ___ Yes ___ No How hard was this skill for you? ___ Easy ___ Moderate ___ Hard	
Use only when necessary	Did you use this skill? ___ Yes ___ No How hard was this skill for you? ___ Easy ___ Moderate ___ Hard	

Adapted from the PCIT Treatment Manual (Eyberg, 1999)



Sit and Watch Procedure

Essential Element	Examples
Behavior for which Sit & Watch will be used	Fighting— hitting, kicking, or biting another child or the teacher
Brief statement at beginning	“Because you threw a block, you have to sit and watch how the other children play.” “We don’t throw toys. You need to go to Sit and Watch.”
Location for child to be seated	Approximately 5 feet outside the activity area, facing the activity
Time length and requirement to end	One minute in chair, with five seconds of quiet at the end
Procedure if child gets out of chair or misbehaves	<ul style="list-style-type: none"> A. Return child to the chair (“Stay here until I tell you that Sit & Watch is over”) and restart timer B. If child gets up more than two times, move chair to quiet corner of room C. Extend time by one or two minutes if needed D. Then have child return to Sit & Watch chair and sit for one minute
Brief statement at end of Sit & Watch	“You may come back to the activity now.”
Teacher attention to appropriate behavior	Labeled praise of child’s appropriate behavior

(Gershenson, Lyon, & Budd, 2010)



Sit and Watch Procedure

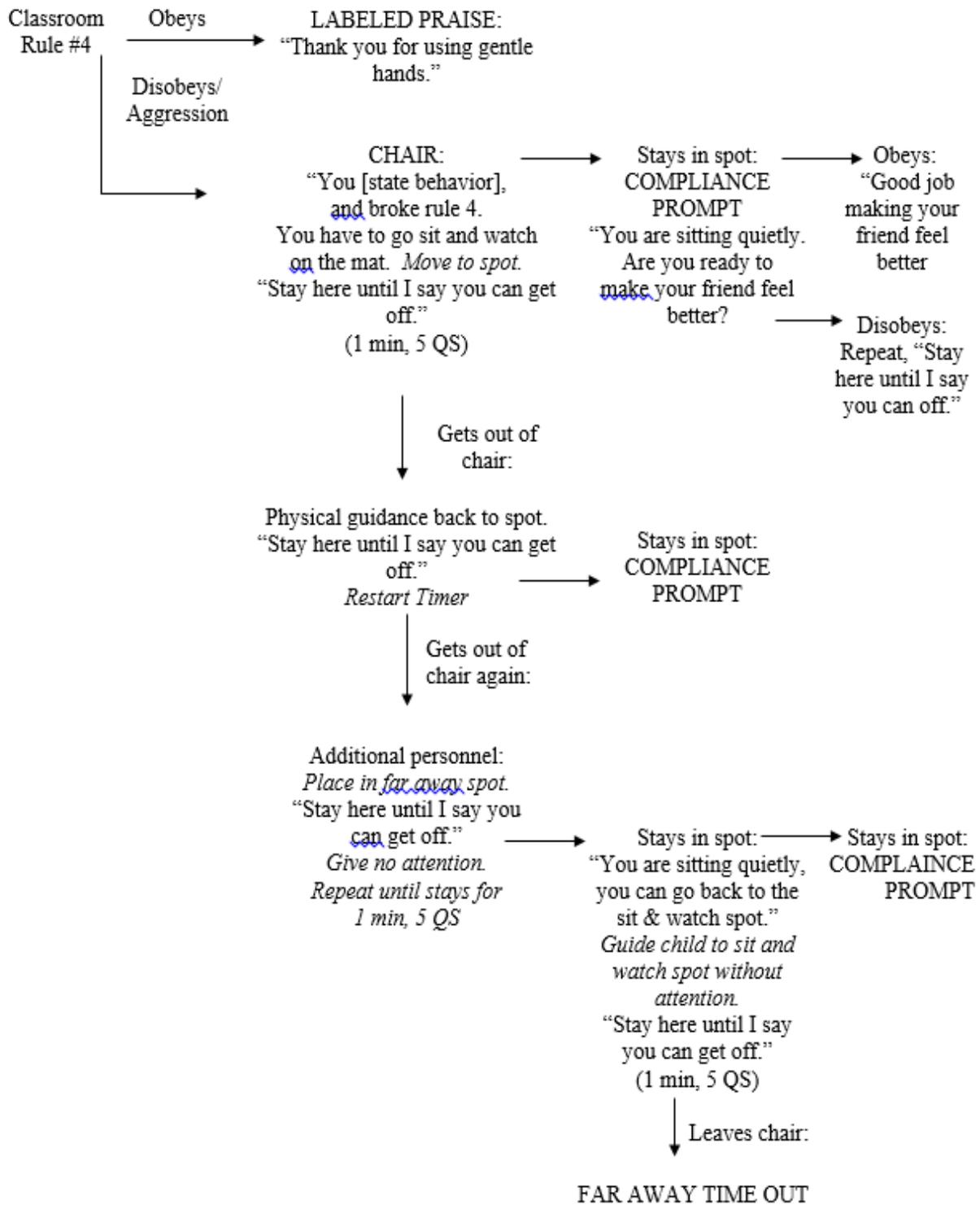
Essential Element	Procedure
Behavior for which Sit & Watch will be used	
Brief statement at beginning	
Location for child to be seated	
Time length and requirement to end	
Procedure if child gets out of chair or misbehaves	
Brief statement at end of Sit & Watch	
Teacher attention to appropriate behavior	

Appendix E: Sit and Watch Procedure and Data Collection Tool for Participant Triad 1

Sit & Watch Planning Meeting

Essential Element	Developed Procedure
Behavior for which Sit & Watch will be used	Aggression.
Brief statement at the beginning	Identify behavior, and broke rule 4. You have to go sit and watch on the mat.
Location for the child to be seated	Mat about 10 feet outside of the carpet
Time length and requirement to end	Two minutes with 5 quiet seconds
Procedure if child gets out of chair or misbehaves	<ol style="list-style-type: none">1. Classroom teacher one guidance back to spot.2. Aid move spot further away and continue to guide to spot until can sit for 5 quiet seconds
Brief statement at the end of Sit & Watch	You are sitting quietly on the spot. Are you ready to go make sure your friend is ok?
Teacher attention to appropriate behavior	Good job making your friend feel better.

Sit & Watch Procedure – Aggression

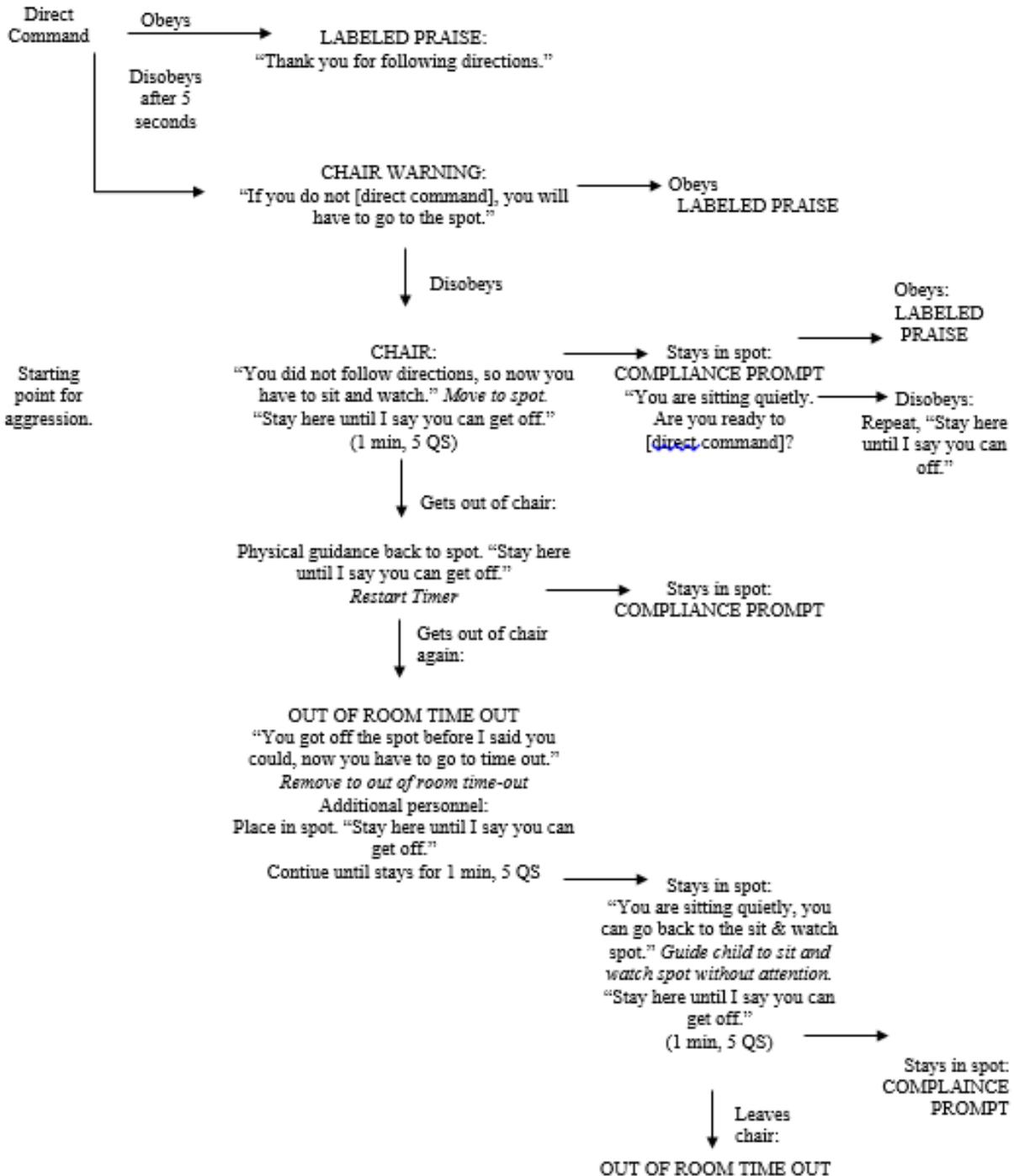


Appendix F: Sit and Watch Procedure and Data Collection Tool for Participant Triad 2

Sit & Watch Planning Meeting

Essential Element	Developed Procedure
Behavior for which Sit & Watch will be used	Non-compliance. Aggression.
Brief statement at the beginning	Warning 1 – behavior stick Warning 2 – take away behavior stick, warning for chair Straight to chair
Location for the child to be seated	Taped area near white board. Out of room time out. Ms. Ackerman
Time length and requirement to end	One minute with 5 quiet seconds
Procedure if child gets out of chair or misbehaves	1. Close by TO chair 2. One guidance 3. Out of room TO 4. If misbehavior
Brief statement at the end of Sit & Watch	Regular
Teacher attention to appropriate behavior	Second command.

Sit & Watch Procedure – Non-compliance



Appendix G: Parent Demographic Questionnaire

Date: _____

Parent Information

Name: _____

Relation to the Child: _____

Your Race/Ethnicity:

- | | |
|---|--|
| <input type="radio"/> American Indian or Alaskan Native | <input type="radio"/> Native Hawaiian or Pacific Islander |
| <input type="radio"/> Asian | <input type="radio"/> White |
| <input type="radio"/> Black or African American | <input type="radio"/> Multi-racial (please specify): _____ |
| <input type="radio"/> Hispanic or Latino | <input type="radio"/> Other (please specify): _____ |

Your Age: _____

Your current marital status (circle one):

- | | |
|--|---------------------------------|
| <input type="radio"/> Single | <input type="radio"/> Separated |
| <input type="radio"/> In a steady relationship | <input type="radio"/> Divorced |
| <input type="radio"/> Married | <input type="radio"/> Widowed |

Highest Level of Completed Education (circle one):

- | | |
|---|---|
| <input type="radio"/> High school or equivalent | <input type="radio"/> Master's Degree |
| <input type="radio"/> Some college | <input type="radio"/> Doctoral degree |
| <input type="radio"/> Bachelor's degree | <input type="radio"/> Other (please specify): _____ |

Number of adult caregivers living in your home other than yourself: _____

Number of children living in your home: _____

Child Information

Child's Name: _____

Child's Date of Birth: _____ (month / day / year)

Child's Race/Ethnicity:

- | | |
|---|--|
| <input type="radio"/> American Indian or Alaskan Native | <input type="radio"/> Native Hawaiian or Pacific Islander |
| <input type="radio"/> Asian | <input type="radio"/> White |
| <input type="radio"/> Black or African American | <input type="radio"/> Multi-racial (please specify): _____ |
| <input type="radio"/> Hispanic or Latino | <input type="radio"/> Other (please specify): _____ |

Appendix H: Teacher Demographic Questionnaire

Date: _____

Teacher Information

Name: _____

Gender: _____

Your Race/Ethnicity:

- | | |
|---|--|
| <input type="radio"/> American Indian or Alaskan Native | <input type="radio"/> Native Hawaiian or Pacific Islander |
| <input type="radio"/> Asian | <input type="radio"/> White |
| <input type="radio"/> Black or African American | <input type="radio"/> Multi-racial (please specify): _____ |
| <input type="radio"/> Hispanic or Latino | <input type="radio"/> Other (please specify): _____ |

Your Age: _____

Highest Level of Completed Education (circle one):

- | | |
|---|---|
| <input type="radio"/> High school or equivalent | <input type="radio"/> Master's Degree |
| <input type="radio"/> Some college | <input type="radio"/> Doctoral degree |
| <input type="radio"/> Bachelor's degree | <input type="radio"/> Other (please specify): _____ |

Number of years teaching preschool: _____

Appendix I: Student-Teacher Relationship Scale—Short Form

Robert C. Pianta

Child: _____ Teacher: _____

Grade: _____

Please reflect on the degree to which each of the following statements currently applies to your relationship with this child. Using the scale below, circle the appropriate number for each item.

Definitely does not apply 1	Not really 2	Neutral, not sure 3	Applies somewhat 4	Definitely applies 5
-----------------------------------	--------------------	---------------------------	--------------------------	----------------------------

1. I share an affectionate, warm relationship with this child.	1	2	3	4	5
2. This child and I always seem to be struggling with each other.	1	2	3	4	5
3. If upset, this child will seek comfort from me.	1	2	3	4	5
4. This child is uncomfortable with physical affection or touch from me.	1	2	3	4	5
5. This child values his/her relationship with me.	1	2	3	4	5
6. When I praise this child, he/she beams with pride.	1	2	3	4	5
7. This child spontaneously shares information about himself/herself.	1	2	3	4	5
8. This child easily becomes angry with me.	1	2	3	4	5
9. It is easy to be in tune with what this child is feeling.	1	2	3	4	5
10. This child remains angry or is resistant after being disciplined.	1	2	3	4	5
11. Dealing with this child drains my energy	1	2	3	4	5
12. When this child is in a bad mood, I know we're in for a long and difficult day.	1	2	3	4	5
13. This child's feelings toward me can be unpredictable or can change suddenly.	1	2	3	4	5
14. This child is sneaky or manipulative with me.	1	2	3	4	5
15. This child openly shares his/her feelings and experiences with me.	1	2	3	4	5

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Appendix J: Systematic Direct Observation for Participant Triad 1

Participant ID: _____ Date: _____
 Setting: _____ Observer: _____

Behavior Codes & Definitions:

Tantrum (T): Jumping or throwing self to ground while yelling “no” or having a raised voice

Aggression (AG): Using any part of body to harm another person

Destruction (DS): Using any part of body to cause damage to an object, including throwing

Non-compliance (NC): Failure to follow a clear direction after 5-seconds

Directions: Record behavior code if behavior occurs during **any part** of 15-sec. interval

Minute	15 Second Intervals			
1	T AG DS NC	T AG DS NC	T AG DS NC	T AG DS NC
2	T AG DS NC	T AG DS NC	T AG DS NC	T AG DS NC
3	T AG DS NC	T AG DS NC	T AG DS NC	T AG DS NC
4	T AG DS NC	T AG DS NC	T AG DS NC	T AG DS NC
5	T AG DS NC	T AG DS NC	T AG DS NC	T AG DS NC
6	T AG DS NC	T AG DS NC	T AG DS NC	T AG DS NC
7	T AG DS NC	T AG DS NC	T AG DS NC	T AG DS NC
8	T AG DS NC	T AG DS NC	T AG DS NC	T AG DS NC
9	T AG DS NC	T AG DS NC	T AG DS NC	T AG DS NC
10	T AG DS NC	T AG DS NC	T AG DS NC	T AG DS NC
11	T AG DS NC	T AG DS NC	T AG DS NC	T AG DS NC
12	T AG DS NC	T AG DS NC	T AG DS NC	T AG DS NC
13	T AG DS NC	T AG DS NC	T AG DS NC	T AG DS NC
14	T AG DS NC	T AG DS NC	T AG DS NC	T AG DS NC
15	T AG DS NC	T AG DS NC	T AG DS NC	T AG DS NC

Appendix K: Systematic Direct Observation for Participant Triad 2

Participant ID: _____ Date: _____
 Setting: _____ Observer: _____

Behavior Codes & Definitions:

Disrupting Other Students with words (D): Distracting other student by speaking to them about an off-task topic

Keeping hands to self (HS): Touching a peer, adult, or peer's materials with any part of the body

Non-compliance (NC): Failure to follow a direction after 5-seconds

Leaving area (LA): Moving more than 1 foot away from assigned area without permission from the teacher

Directions: Record behavior code if behavior occurs during **any part** of 15-sec. interval

Minute	15 Second Intervals			
1	D HS NC LA	D HS NC LA	D HS NC LA	D HS NC LA
2	D HS NC LA	D HS NC LA	D HS NC LA	D HS NC LA
3	D HS NC LA	D HS NC LA	D HS NC LA	D HS NC LA
4	D HS NC LA	D HS NC LA	D HS NC LA	D HS NC LA
5	D HS NC LA	D HS NC LA	D HS NC LA	D HS NC LA
6	D HS NC LA	D HS NC LA	D HS NC LA	D HS NC LA
7	D HS NC LA	D HS NC LA	D HS NC LA	D HS NC LA
8	D HS NC LA	D HS NC LA	D HS NC LA	D HS NC LA
9	D HS NC LA	D HS NC LA	D HS NC LA	D HS NC LA
10	D HS NC LA	D HS NC LA	D HS NC LA	D HS NC LA
11	D HS NC LA	D HS NC LA	D HS NC LA	D HS NC LA
12	D HS NC LA	D HS NC LA	D HS NC LA	D HS NC LA
13	D HS NC LA	D HS NC LA	D HS NC LA	D HS NC LA
14	D HS NC LA	D HS NC LA	D HS NC LA	D HS NC LA
15	D HS NC LA	D HS NC LA	D HS NC LA	D HS NC LA

Appendix L: Dyadic Teacher-Child Interaction Coding System (DTICS)

Date: _____

Participant ID #: _____

Observer Name: _____

POSITIVE INTERACTIONS	TARGET STUDENT	TOTAL	WHOLE GROUP OR OTHER STUDENT	TOTAL
NEUTRAL TALK				
BEHAVIOR DESCRIPTION				
REFLECTION				
LABELED PRAISE				
UNLABELED PRAISE				

AVOID	TARGET STUDENT	TOTAL	WHOLE GROUP OR OTHER STUDENT	TOTAL
QUESTIONS				
INDIRECT COMMANDS				
DIRECT COMMANDS				
NEGATIVE TALK				

ADDITIONAL SKILLS			
IMITATE	SATISFACTORY	NEEDS PRACTICE	
USE ENTHUSIASM	SATISFACTORY	NEEDS PRACTICE	
IGNORE DISRUPTIVE BEHAVIOR	SATISFACTORY	NEEDS PRACTICE	
USE TIME OUT PROCEDURE			
OTHER OBSERVATIONS			

Appendix M: DTICS Interobserver Agreement Form

Date: _____

Observer #1: _____

Participant ID #: _____

Observer #2: _____

POSITIVE INTERACTIONS	Observer #1	Observer #2	Agreements	Disagreements
BEHAVIOR DESCRIPTION				
REFLECTION				
LABELED PRAISE				
UNLABELED PRAISE				

AVOID	Observer #1	Observer #2	Agreements	Disagreements
QUESTIONS				
INDIRECT COMMANDS				
DIRECT COMMANDS				
NEGATIVE TALK				

DTICS IOA:

Total Agreements: _____ Total Disagreements: _____ Total Codes (A + D): _____

IOA: $\text{Agreements} / \text{Total Codes} \times 100 = \frac{\quad}{\quad} \times 100 =$

Over 79.4%? → Attach IOA Observer's DTICS to this sheet and place in binder.

Under 79.5% → Re-do observation.

SDO IOA:

Total Agreements: _____ Total Disagreements: _____ Total Codes (A + D): _____

IOA: $\text{Agreements} / \text{Total Codes} \times 100 = \frac{\quad}{\quad} \times 100 =$

Appendix N: Institutional Review Board Approval Letter

12/11/2015

Sara Hinojosa, M.A.
Educational and Psychological Studies
4202 East Fowler Ave, PCD4118G
Tampa, FL 33620

RE: **Full Board Approval for Continuing Review**

IRB#: CR1_Pro00019524

Title: Teacher Child Interaction Therapy: An Ecological Approach to Intervening with Young Children Who Display Disruptive Behaviors

Study Approval Period: 12/12/2015 to 12/12/2016

Dear Ms. Hinojosa:

On 12/11/2015, the Institutional Review Board (IRB) reviewed and **APPROVED** the above application and all documents contained within, including those outlined below.

Approved Item(s):

Protocol Document(s):

Pro00019524__IRB Protocol V3 11.6.2015.docx

Consent/Assent Document(s)*:

Parent Informed Consent__Version 2, 11.6.15.docx.pdf

Parent permission for participation__Version 2, 11.6.15.docx.pdf

Teacher Informed Consent__Version 2, 11.6.15.docx.pdf

*Please use only the official IRB stamped informed consent/assent document(s) found under the "Attachments" tab on the main study's workspace. Please note, the consent/assent document(s) are only valid during the approval period indicated at the top of the form(s).

As the principal investigator of this study, it is your responsibility to conduct this study in accordance with USF HRPP policies and procedures and as approved by the USF IRB. Any changes to the approved research must be submitted to the IRB for review and approval via an amendment. Additionally, all unanticipated problems must be reported to the USF IRB within five (5) calendar days.

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-5638.

Sincerely,



John Schinka, Ph.D., Chairperson
USF Institutional Review Board