Evaluation of a Four-Phase Teacher-Child Interaction Training Protocol for Reducing Behavior Problems in Preschool Classrooms

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Introduction

Teacher-Child Interaction Training (TCIT) is an adaptation of Parent-Child Interaction Therapy (PCIT), an empirically-supported parent training program designed to reduce behavioral and emotional problems in children 2 to 7 years of age (e.g., Eyberg & McNeil, 2002; Hembree-Kigin & McNeil, 1995; McIntosh, Rizza, & Bliss, 2000). As challenging behaviors are not limited to the home but often extend into the classroom, PCIT has been adapted for use in preschool classrooms (e.g., Anhalt, McNeil, & Bahl, 1998; McIntosh et al., 2000). Studies have shown significant improvements in compliance and decreases in disruptive behaviors in the classroom following TCIT (e.g., McIntosh, Rizza, & Bliss, 2000; McNeil et al., 1991). TCIT can be particularly beneficial to children from low-income households, where high rates of behavioral and emotional problems are evident (e.g., Aber, Jones, & Cohen, 2000; Evans, 2004). Thus, programs that are focused on fostering healthy development in low-income children, such as Head Start, are likely to benefit greatly from the utilization of TCIT (e.g., Administration for Children & Families, 2003).

Through an ongoing treatment outcome program at the University of Nebraska-Lincoln, TCIT was incorporated into a four-phase intervention. A treatment manual (Cronch, Veed, Hill, & Flood, 2005) consisting of four phases (i.e., Phase 1: Understanding the Child, Phase 2: Emotion Coaching, Phase 3: Child-Directed Interaction, and Phase 4: Managing Behavior) was developed to promote treatment adherence and included topics of discussion, handouts, and tracking forms. Cronch et al. (2006) demonstrated that TCIT in one Midwestern Head Start classroom resulted in fewer classroom challenging behaviors and notable improvements in teacher child-directed interaction skills.

The purpose of the current project was to extend the evaluation of the four-phase TCIT protocol described by Cronch et al. (2006) across a larger sample of Head Start preschool children in multiple Midwestern centers. The specific goals of the present study were to: (1) examine the occurrence of challenging behaviors in the treatment classrooms and comparison classrooms, (2) examine the use of positive Child-Directed Interaction skills (CDI, i.e., labeled praises, behavioral descriptions, reflections) in the treatment classrooms and comparison classrooms, and (3) examine the use of CDI skills in TCIT training sessions to better understand the generalization of skills to the classroom environment. It was hypothesized that classroom problem behaviors would show a notable decrease and CDI skills would increase in TCIT classrooms in comparison to no-treatment classrooms. Also, an increase in CDI skills during TCIT training sessions was hypothesized to generalize to an increase in CDI skills in the classroom environment.

Method

Participants in this study included 68 preschool children and five preschool teachers in five Head Start classrooms. Classrooms from three different preschool centers in the Midwest were selected, with the two treatment condition classrooms at the same center. The gender ratios for children in this study were 51% female and 49% male and all ranged between the ages of 3 and 5 years. The average age of the five preschool teachers was 22.8 years (ranging from 21 to 24 years) with an average of 3.9 years of Early Childhood teaching experience (ranging from 1 to7 years). The intervention was implemented by clinical psychology graduate students. All observational data were gathered by an undergraduate research assistant who had been trained in data collection and had achieved high inter-rater reliability with other raters during previous TCIT interventions. Observations were conducted weekly until one month following completion of TCIT. During each classroom observation, overall challenging classroom behaviors (e.g., hitting, kicking, throwing things) were tracked for 15 minutes during 30-second time intervals. The trained observer used the Time Sampling of Behaviors form, a behavior observation coding system designed by the University of Nebraska-Lincoln to meet the screening requirements of the Head Start program. Additionally, teachers were observed for their use of CDI skills in the classroom. These behaviors were coded for 5 minutes during each observation using the Dyadic Parent-Child Interaction Coding System-II (DPICS-II; Eyberg et al., 1994).

All training sessions implemented during Phase 3 (Child-Directed Interactions) were conducted by master's level clinical psychology graduate students trained in the TCIT protocol (Cronch et al., 2006). The CDI Skills Coding Sheet – DPICS was used to code all training sessions for 5 minutes. Graduated training sessions (i.e., starting with one child and adding an additional child, with a maximum of three children during a training session, upon mastery of CDI skills) were conducted outside of the classroom in order to produce a more isolated environment to aid the teacher in mastery of CDI skills and provide direct coaching following data collection. Mastery of positive CDI skills was defined as a minimum of 10 labeled praises, 10 behavioral descriptions, and 10 reflections during the 5 minute observation.

For the purposes of providing a concise presentation of the study, one of the three control classrooms was randomly selected as a comparison to the two TCIT classrooms. Data from the comparison classroom were collected over 24 sessions in a period of six months. Classroom observations for TCIT classrooms consisted of 20 sessions over five months for Classroom A and 21 sessions over six months for Classroom B. The teacher from Classroom A was observed over 4 training sessions with only one child due to not meeting skill mastery before intervention was completed . The teacher from Classroom B was observed over 10 training sessions: five sessions with one child, four sessions with two children, and the final session with three children.

Results of Classroom Observations

Figure 1

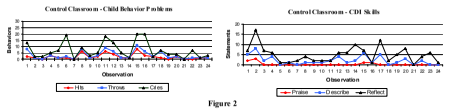


Figure 2

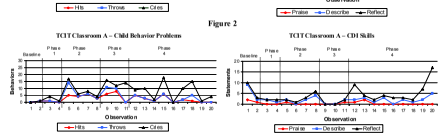
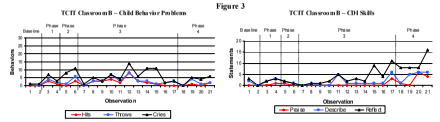


Figure 3



Although data collected on classroom child behavior problems consisted of 11 different challenging behaviors, for this study three high frequency, disruptive behaviors were chosen: hits, throws, and cries. As shown in Figure 1, children in the comparison classroom exhibited an average incidence of 2 hits, 1.2 throws, and 4 cries, while the teacher exhibited an average of 0.3 labeled praises (SD = .8), 1.8 behavior descriptions (SD = 1.7), and 2.9 reflections (SD = 2.6) across observations.

In comparison, the teacher of TCIT classroom A (Figure 2) demonstrated an average of 1.5 labeled praises, 4 behavior descriptions, and 1 reflection during baseline phase. While both labeled praises and descriptions appeared to decrease from baseline to Phase 4, the number of reflections improved to an average of 3.6 (SD = 3.8) in the final phase. Children in TCIT classroom A overall exhibited a slight increase in problem behaviors, particularly during Phase 3 when the teacher was beginning to learn CDI skills. However, during Phase 4, problem behaviors again decreased to an average of 2 hits, 0.44 throws, and 5.2 cries. Overall, the average number of child behavior problems remained low from baseline to Phase 4 of treatment.

The teacher of TCIT classroom B (Figure 3) demonstrated an average of 0 labeled praises, 1 behavior description, and 0.5 reflections during baseline phase. An overall increase in all CDI skills was noted from baseline to Phase 4 of TCIT, with an average of 2.75 praises (SD = 2.8), 1.75 descriptions (SD = 2.4), and 5.5 reflections (SD = 3.7). As with TCIT classroom A, the average number of child behavior problems remained low overall from baseline to Phase 4.

Results demonstrated no marked changes in the occurrence of child behavior problems in the TCIT classrooms from baseline to Phase 4 of treatment. However, as baseline consisted of only two sessions, for each of the TCIT classrooms, this likely may not have been an adequate measure of pre-treatment classroom challenging behaviors. Further, at times the teacher was not present in the classroom or directly interacting with the children during whole classroom data collection. Thus, the direct effects of the teacher on classroom challenging behaviors was difficult to determine.

While the teacher of the comparison classroom demonstrated an overall decrease in her use of CDI skills in the classroom environment, both TCIT classroom teachers exhibited an overall increase in the use of reflections. Further, the teacher of TCIT classroom B showed an increase in her use of all three positive CDI skills from baseline to the final phase of the intervention.

Results of Training Sessions

Figure 4

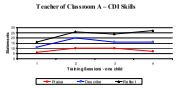
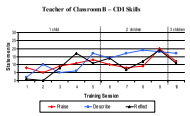


Figure 5



As shown in Figure 4, the teacher of TCIT classroom A was coached in CDI skills with one child over four training sessions. Due to not meeting mastery criteria for CDI skills, the teacher of TCIT classroom A did not progress to working with additional children in training sessions. However, as demonstrated, this teacher exhibited an overall increase in her use of reflections and descriptions, though with little change in her use of labeled praises. Additional training sessions focused on increasing her use of labeled praises would likely have increased this skill to meeting mastery criteria (i.e., 10 labeled praises).

Teacher of TCIT classroom B was coached in CDI skills over 10 training sessions with one, two, and three children (see Figure 5). In order to graduate to further training sessions with additional children, stringent mastery criteria noted earlier were used. This teacher was able to demonstrate a high level of positive interactions, from only 8 labeled praises, 2 descriptions, and 1 reflection during the initial training session with one child to 12 labeled praises, 17 descriptions, and 11 reflections during the final training session with three children.

Discussion and Future Directions

The overall goal of the present study was to extend the findings of Cronch et al. (2006) using a larger sample of children and teachers in multiple preschool classrooms. The results of the study demonstrated that TCIT led to an overall improvement in the teacher's use of CDI skills, both within the classroom and the training sessions. Further, both teachers in the TCIT classrooms exhibited a higher level of skills in the classroom environment by Phase 4, following all training sessions conducted during Phase 3. This was quite notable with the teacher of TCIT classroom A, who exhibited a marked improvement in her use of reflections in the classroom in Phase 4, although these competencies were not evident during Phase 3. However, her high level of reflections and descriptions were likely generalized to the classroom with time as shown in Figure 2. Further, the teacher of TCIT classroom B provided a good demonstration of the importance of adopting strict mastery criteria for skills as she was able to maintain a high level of skills by the final training session and within the classroom environment during Phase 4. Thus, the adoption of strict mastery criteria and an adequate number of training sessions with intensive coaching may be necessary for generalization to be achieved. However, longer follow-up to better assess maintenance and generalization is needed.

As noted in Cronch et al. (2006) several challenges still existed. First, throughout the study there was a high turnover in staff and children. Thus, it is possible that some of the children in the later phases of the treatment exhibited more challenging behaviors due to either being unaccustomed to the environment and new staff, or newer staff were less able to reduce problem behaviors. With this high turnover in children, it was once again difficult to select children for pre- and post-treatment assessments of functioning. Second, the study could not be conducted over the same number of sessions and length of time for each teacher, as with the teacher of TCIT classroom A who could only be trained over four sessions of Phase 3. However, adoption of mastery criteria of CDI skills and ensuring that each TCIT teacher was competent in each phase of the protocol afforded a more individualized approach that met the clinical demands of the project. That is, teachers provided overall positive anecdotal feedback about their: training; perceived competence of their skills; and perceived decrease in child problem behaviors within the classroom environment. Further, it is difficult to make comparisons between the treatment classrooms and with the control classroom as neither the children nor teachers were randomly assigned to either condition.

Given these challenges, the following recommendations are provided for future implementation of TCIT. Although a shorter length of intervention may not be feasible (the current project was 6 months in duration), more frequent data collection, especially more baseline and follow-up data, are recommended as data were collected on a weekly basis for 15 minute observation periods. Also, data collected within the classroom should consist of observations of the selected teacher, as effects of the teacher on classroom challenging behaviors and use of CDI skills would likely be more attributable to that teacher, rather than other staff not enrolled in the treatment. Lastly, providing intensive coaching and modeling within the classroom may be more beneficial for generalization of skills. In general, TCIT was shown to increase the use of CDI skills in the classroom environment, thereby fostering more positive interactions and reducing problem behaviors. While the number of challenging behaviors were not shown to decrease in the present study, as the frequency was overall quite low, the study demonstrates that TCIT may not only be a useful intervention for preschool classrooms in reducing significant behavior problems, but preventing them from developing.