Parent-Child Interaction Therapy (PCIT) is an evidence-based intervention for families of young children with behavioral difficulties (Herschell, Calzada, Eyberg, & McNeil, 2002b). Based on the Hanf (1969) two-stage model, PCIT uses principles from both attachment theory and social learning theory (as cited in Eisenstadt, Eyberg, McNeil, Newcomb, & Funderburk, 1993). Attachment theory has helped mold the intervention by placing focus on a positive and secure parent-child relationship. Social learning theory contributed to the therapy by placing a focus on establishing and maintaining consistent contingencies to control the child’s behavior (Herschell et al., 2002b). These theoretical approaches are reflected in two phases of treatment: Child-Directed Interaction (CDI) and Parent-Directed Interaction (PDI).

The first phase of PCIT is CDI, which focuses on enhancing the parent-child relationship and developing positive interactions through play therapy. In this phase, the therapist instructs and coaches parents to follow the lead of their child’s play while using the PRIDE skills: praising their child’s appropriate behavior (e.g., “I like it when you play gently with the toys”), reflecting their child’s speech (e.g., repeating their child’s verbalizations), imitating appropriate play, describing appropriate actions of their child (e.g., “you’re picking up the red block”), and exhibiting enthusiasm during the play. Therapists also instruct parents to refrain from asking questions, using commands, and making critical comments. CDI is complete when the parent reaches mastery of the PRIDE skills, meaning that he/she uses 10 labeled praises; 10 behavioral descriptions; 10 reflections; and fewer than 3 total questions, commands, or criticisms within a 5-min period of play therapy (Herschell, Calzada, Eyberg, & McNeil, 2002a). Although labeled praises, behavioral descriptions, and reflections are measured quantitatively during this observation, the therapist also qualitatively assesses parent use of imitation and enthusiasm. CDI also emphasizes differential attention by teaching parents to provide labeled praises of appropriate behaviors and ignore mildly inappropriate behaviors. The goals of this phase include improving the parent-child relationship, child’s self esteem, and sustained attention to tasks as well as decreasing the child’s anger and frustration (Hembree-Kigin & McNeil, 1995). After parents master these skills, they move on to the second phase of treatment, PDI.

In contrast to CDI, in which parents follow the child’s lead, the focus of PDI is to train parents in providing effective commands and discipline. Therefore,
this stage begins with giving the parents the lead in playing with the child. Therapists instruct parents to use clear, direct commands while playing with the child. After a parent gives a command, he/she must praise the child for compliance or use consistent consequences for noncompliance. The therapist coaches parents in this phase of the therapy as well, giving direction and feedback for their speech and actions. There are also specific criteria for mastering this phase of treatment (Herschell et al., 2002a). The goal of PDI is to decrease disruptive child behaviors while increasing desirable behaviors (Eisenstadt et al., 1993).

Although many investigations have examined PCIT’s overall effects on various childhood problems, relatively little research has focused on evaluating the many complex components and specific stages. Eisenstadt et al. (1993) compared the order in which families received the CDI and PDI stage of treatment by randomly assigning half of the families to PDI first and half to CDI first. The researchers found that mothers who received PDI before CDI reported greater satisfaction and improvements in child conduct problems than mothers assigned to CDI first.

In addition to examining the relative order of each stage of treatment, several investigations have looked at specific PCIT components. For instance, research on the timeout component indicated that the 2-chair holding technique (a procedure developed as an alternative to standard timeout for children who escape the timeout chair; parents learn to hold their child who is seated at a second “back-up” chair) was effective in both decreasing timeout escape and improving overall behavior (McNeil, Clemens-Mowrer, Gurwitch, & Funderburk, 1994). Other research from related fields individually examining the effects of praise on child behavior found that such verbalization increased child compliance (e.g., Bean & Roberts, 1981; Budd, Green, & Baer, 1976; Reimers et al., 1993). Researchers have paid less attention to other positive parenting skills, and it is currently unclear the degree to which behavior problems in children are affected by praise versus other aspects of general attention, such as descriptions and enthusiasm (Filcheck, McNeil, & Herschell, 2001). Filcheck and colleagues examined the influence of these factors on child behavior. Experimenters presented praise enthusiastically or unenthusiastically and presented descriptions of the children’s actions unenthusiastically. Children receiving unenthusiastic descriptions exhibited higher compliance than those receiving enthusiastic praise (Filcheck et al., 2001). The researchers suggested that this finding may be related to children’s past experiences with unenthusiastic statements being associated with punishment. However, these findings raise questions about the roles of both individual skills and combined skills. In particular, enthusiasm is used in combination with other skills (i.e., praise, behavioral descriptions, and reflections), and child behavior may differ depending on whether skills are used in an enthusiastic or unenthusiastic manner.

Although Filcheck et al. (2001) did investigate enthusiasm with behavioral descriptions, it is unclear how behavioral descriptions (one of the PRIDE skills of PCIT) directly affect child behaviors aside from compliance (e.g., attention to task). Behavioral descriptions involve the parent describing the child’s behavior (e.g., “you’re putting the eyes on Mr. Potato Head”). Theoretically, behavioral descriptions teach children concepts, keep children in the lead of the play, and show the children that they have their parent’s undivided attention. Another hypothesis suggests that behavioral descriptions improve children’s focus on the task at hand, thereby increasing their attention to the task (Hembree-Kigin & McNeil, 1995). The aim of the current study was to test the last of these hypotheses by addressing how behavioral descriptions affect the on-task behavior of children. We hypothesized that a child’s percentage of on-task behavior would increase in a behavioral description condition compared to a nonverbal attention condition. A secondary purpose of the current project was to pilot the procedure and materials for a larger study examining several individual and combined components of PCIT.

Method

Participants

Three children between age 3 and 6 who exhibited problems with attention or hyperactivity/impulsivity based on parental verbal report participated in the study. However, participants were not required to meet diagnostic criteria for Attention-Deficit/Hyperactivity Disorder (ADHD); none of the children had a previous diagnosis.

We recruited participants by distributing flyers to Head Start centers, medical clinics, daycares, and schools. We placed flyers in common areas and distributed them to appropriate parent-child dyads. Parents who expressed interest in the study and whose children met the inclusion/exclusion criteria were scheduled for an appointment.

Participant 1 was a 6-year-old African American boy from a low socioeconomic household (below $20,000 per year) where the highest level of parental education was a bachelor’s degree. Participant 1’s parental report placed him in the normal range on the ADHD Index of the Conners’ Parent Rating Scale (1997; T = 58).

Participant 2 was a 3-year-old Caucasian girl from a low socioeconomic household where the highest level of parental education was a high school diploma.
Participant 2’s parental report also placed her in the normal range on the ADHD Index ($T = 53$).

Participant 3 was a 5-year-old Caucasian girl also from a low socioeconomic household where the highest level of parent education was a high school diploma. Participant 3’s parental report placed her in the normal range on the ADHD Index as well ($T = 53$).

According to parental reports, none of these children’s attention problems were better accounted for by another diagnosis. These children had never received prior treatment for attention problems, nor were they taking any ADHD medications.

Participation took approximately 2 hr including consent procedures, parental completion of measurements, warm-up periods, experimental tasks, and breaks. For participation, the parent-child dyads received $15$ gift cards to Wal-Mart, small snacks and prizes for the child, and childcare for the duration of the experiment.

Materials

A demographic form designed for this study included questions about parent, child, and family characteristics in order to describe the sample. Specifically, the form contained questions about the child’s age, grade, sex, ethnicity, family income, number of members in the household, and medication status.

The Conners’ Parent Rating Scale (1997) is a 27-item scale with an Oppositional Scale, a Cognitive Problems/Inattention Scale, a Hyperactivity Scale, and a Conners’ ADHD Index. The scale has both adequate validity and reliability (Conners, 1997). Parents use a 4-point Likert scale to report whether a behavior is not true at all (0), just a little true (1), pretty much true (2), or very much true (3). We used scores on the ADHD Index to quantify symptoms in the sample.

To code on-task behavior ratings, we defined on-task and off-task behavior based on the Revised Edition of the School Observational Coding System (REDSOCS), an evidence-based observational coding system for assessing disruptive classroom behavior (Jacobs et al., 2000). While the child completed a coloring task, raters coded behavior as on-task or off-task. The definition for on-task behavior included attending to the coloring task (e.g., maintaining visual gaze directed toward the paper or crayons) or making appropriate motor responses (e.g., coloring, switching crayons). Raters coded the child as on-task only after he/she remained on the task for the entire 10 s interval. Behaviors coded as off-task included any behavior not included in the definition of on-task behavior at any point during the 10 s interval (e.g., getting out of seat, staring blankly away from the task, using the materials inappropriately). One or two trained researcher(s) coded every trial, and two researchers coded 29% of interactions to ensure inter-rater reliability. These raters trained for inter-rater reliability through videotaped coding of child behavior and live coding of a volunteer role-playing participant. Following training, inter-rater reliability was established through live coding and assessed by computing the percentage of agreement. Percent agreement values for these trials ranged from 83.3% to 100.0% ($M = 90.1\%, SD = 0.06\%$).

Design and Procedure

The experimental method of this study was a single-subject reversal (ABA) design. Each participant experienced both conditions. Prior to the beginning of each condition, the participant received a 3-min warm-up trial to control for any novelty effects. Condition A was the nonverbal attention condition, in which the participant performed a coloring task while the experimenter silently sat at a close proximity to the child to control for the effects of nonverbal attention on child behavior. Condition B was the behavioral description condition, in which the participant performed the same coloring task while the experimenter gave two behavioral descriptions for on-task behavior within a 10 s interval (e.g., “You are picking up the blue crayon; you are coloring a blue triangle”). This rate is considerably higher rate than standard PCIT coding situations (approximately 10 behavioral descriptions per 5 min or 2 per min). The purpose of this higher “dosage” was to create a more noticeable difference between the two conditions by providing a high frequency of behavioral descriptions in Condition B. When the participant was off-task in Condition B, the experimenter described the child’s behaviors approximating on-task behavior. This procedure ensured a difference between the two conditions, as the presence of behavioral descriptions was the independent variable. For example, if a child were looking at the task but not coloring, the experimenter would say, “you’re looking at the paper.”

To measure on-task behavior, we evaluated the child’s behavior during the completion of a coloring task. The child received four crayons (red, green, yellow, and blue) and a coloring sheet of geometric shapes with the appropriate colors marked in each shape. The child also received verbal instructions on how to complete the task and to continue working until told to stop. If the child asked questions during a trial, he/she received a verbal prompt to continue coloring until told to stop. We gave maximum of three verbal prompts per trial.

In both Conditions A and B, the child received crayons and the coloring sheet. The experimenter gave the child instructions and modeled the task before each trial. Rater(s) completed manipulation checks to ensure
the experimenter’s adherence to the protocol (e.g., checked to ensure the correct number of descriptions was given). Raters completed manipulation checks for 68% of the trials; adherence to the protocol was 100% for all checks. Each rater simultaneously observed the experimenter’s adherence to protocol and the child’s on-task behavior. The experimenter did not rate on-task behavior. Each trial included eighteen 10-s intervals, thus totaling 3 min per trial. After 9 min (three 3-min trials), the child received a break. To switch conditions, on-task behavior had to remain stable (e.g., absence of bounce or trend in the direction of the hypothesis) for a minimum of three 3-min trials before switching conditions. Switching from one condition to another should be contingent on predetermined stability criterion (Barlow, Nock, & Hersen, 2009). To illustrate, if a child in Condition A was exhibiting a lower percentage of on-task behavior with each trial (i.e., downward trend), an upward trend following the switch to Condition B, with all other variables staying constant, suggests that the presentation of behavioral descriptions influenced the increase in on-task behavior. Total experimental time for each participant was dependent on how quickly the participant achieved the stability criteria outlined previously. For instance, when on-task behavior was stable for three 3-min trials in each of the three conditions, the minimum total experimental coding time was 27 min plus 9 min of warm-up.

Participants received conditions in a counterbalanced order to control for order effects. The first and third participants began with Condition B, switched to Condition A, and then switched back to Condition B (BAB), and the second participant received the opposite sequence (ABA).

Due to the directional nature of the hypothesis, trends in the opposite direction of the hypothesis were not examined as study findings. Specifically, a directional hypothesis that on-task behavior would increase in the behavioral descriptions condition compared to the nonverbal attention condition only allows the presence or absence of trends in the direction of the hypothesis to be examined as findings. A non-directional hypothesis that the conditions would simply differ would allow all trends to be examined.

**Data Analysis**

Three sections on a graph represented each condition. Raters observed and graphed on-task behavior behind a one-way mirror after each trial to measure stability in conditions to determine when to switch conditions. At least three data points were required to be stable prior to switching conditions. The participants did not view these graphs at any point during the study. Each participant had an individual graph; we did not average data across participants. Visual inspection is sufficient to detect effect sizes and allow valid conclusions to be drawn in single-subject research (Kazdin, 2003). Specifically, raters visually analyzed the graphs of on-task behavior, comparing percentages of on-task behavior in conditions A and B for each participant. No statistical analyses were conducted in this study, which is consistent with traditional single-subject methodology (e.g., Parsonson & Baer, 1992; Perone, 1999).

**Results**

As illustrated in Figure 1, the results for Participant 1 demonstrated a difference in on-task behavior between the two conditions. The data indicate a small and consistent increase in on-task behavior in Condition B trials compared to Condition A. In the presence of behavioral descriptions during the first Condition B (first condition), Participant 1’s on-task behavior on each trial ranged from 15-18 intervals (M = 16.3) out of 18 total 10-s intervals per 3 min trial or 83.3%–100% (M = 90.7%). During Condition A (second condition), Participant 1 received no behavioral descriptions and exhibited on-task behavior ranging from 12-13 intervals (M = 12.3) or 66.7%–72.2% (M = 68.6%) per trial. When Condition B was presented a second time (third condition), Participant 1’s on-task behavior ranged from 14-15 intervals (M = 14.66) or 77.8%–83.3% (M = 81.5%) per trial. Participant 1’s on-task behavior was stable prior to switching conditions within each of the three trials.

Participant 2 also exhibited a difference in on-task behavior as a result of the conditions (see Figure 2). The data from Condition B demonstrated overall higher on-task behavior than either of the Condition A situations. In the first presentation of Condition A (first condition), Participant 2 exhibited on-task behavior ranging from 12-13 intervals (M = 12.3) or 66.7%–72.2% (M = 68.6%) per trial. During Condition B (second condition), Participant 2’s on-task behavior ranged from 13-15 intervals (M = 14) or 72.2%–83.3% (M = 77.8%) per trial. When Condition A was presented a second time (third condition), Participant 2’s on-task behavior ranged from 8-10 intervals (M = 9) or 44.4%–55.5% (M = 50.0%) per trial.

Based on visual inspection, stability was not attained for Participant 3’s on-task behavior during the third and final condition, thus resulting in inconclusive results with regard to the study hypothesis. Stability was not required to complete the final condition of the study and was only required to change conditions (i.e., from the first to second condition and from the second to third condition). During the first presentation of Condition B (first condition), Participant 3’s on-task behavior ranged from 9-12 intervals (M = 10.3)
or 50.0%–66.7% (M = 57.4%) per trial. During Condition A (second condition), Participant 3 exhibited on-task behavior ranging from 5–12 intervals (M = 8.3) or 27.8%–66.7% (M = 46.1%) per trial. Due to the trend in the direction of the hypothesis, the conditions changed from A to B. When Condition B was presented a second time (third condition), Participant 3’s on-task behavior ranged from 7–14 intervals (M = 11) or 38.9%–77.8% (M = 61.1%) per trial. Stability was not achieved in the third condition when the design was reversed.

Discussion

This study’s primary purpose was to examine the effects of the behavioral description component of PCIT on on-task behavior in young children. Based on visual inspection of the data, two of the three participants exhibited slightly more on-task behavior during the behavioral description condition than during the proximity condition. This finding was evident regardless of order of conditions (e.g., ABA versus BAB), lending preliminary support for the hypothesis that adult use (i.e., parents, experimenters, and teachers) of behavioral descriptions increases a child’s attention-to-task. Although this finding is consistent with theoretical assumptions presented in the PCIT manual (Hembree-Kigin & McNeil, 1995), additional research is needed given that the current study consisted of only 3 participants.

Stability in the third condition was not attained for the last participant, thus limiting the conclusions regarding Participant 3’s on-task behavior. During the second condition alone, Participant 3 completed a total of nine trials, which may have resulted in fatigue and diminished focus in subsequent trials. Based on our observations, it is possible that fatigue and practice effects resulting from repeated experimental trials may have contributed to this failure to attain stability, thereby limiting the findings.

Additionally, several factors involving the analogue situation in this study may limit its generalizability. For example, PCIT involves parent-child interactions, but this study used experimenter-child interactions. Thus, the children may have behaved differently than in a therapy situation with their parents because in real life the child has a long-term history with the parents (Lytton, 1980). This study also provided children with two behavioral descriptions every 10 s, a considerably higher rate than standard PCIT coding situations. Therefore, descriptions in the current study may have had a larger effect on child on-task behavior because of the larger “dosage.” As the effects detected in this study were small in magnitude, it is unclear whether a smaller dosage...
FIGURE 2
Number of intervals Participant 2 spent on-task during proximity and behavior descriptions conditions. Vertical lines depict standard deviation of on-task intervals within each condition.

FIGURE 3
Number of intervals Participant 3 spent on-task during proximity and behavior descriptions conditions. Vertical lines depict standard deviation of on-task intervals within each condition.
would result in observable changes. Alternatively, it is also possible that the higher dosage was excessive and was less reinforcing to the child, resulting in a smaller effect than predicted. For instance, the amount of speech may have distracted the child from the task at times, and a smaller dosage may result in larger effects. Additionally, this study examined only the behavioral descriptions, whereas PCIT uses all five of the PRIDE skills simultaneously, which include three different quantifiable parental verbal behaviors (i.e., labeled praise, reflection, behavioral description). It is possible that the effects of behavioral descriptions are more powerful when used in combination with the other quantifiable parenting skills (i.e., praise, reflections).

Lastly, this study recruited at-risk individuals instead of clinic-referred individuals. All three of the participants did not fall within the clinical range for ADHD on the Conners’ Parent Rating Scale (1997), yet many PCIT clients meet diagnostic criteria for ADHD (Wagner & McNeil, 2008). Clinic-referred clients seeking treatment may exhibit more drastic differences in on-task behavior between conditions than the at-risk individuals examined in this study. However, the participants recruited for this experiment exhibited inattentive or hyperactive behaviors, according to parental report, which are often accompanied by oppositional tendencies (Brinkmeyer & Eyberg, 2003). Asking these active children to complete a task with specific rules and guidelines may have been measuring both child compliance and on-task behavior. Although initial compliance with the task was necessary in order to attend to the task, measuring compliance was not a purpose of the study. For instance, based on the task and coding system used in this study, a child who refused the task and a child who attempted the task but was distracted would present similarly. Therefore, it is unclear whether compliance and attention can be separated in experimental designs. These confounding variables may limit conclusions pertaining solely to the on-task behavior of these children.

**Clinical Implications and Future Directions**

As the results suggest, it is likely that behavioral descriptions have clinical utility, thus adding support for the theoretical assumptions underlying the PRIDE skills. This study provides preliminary evidence that behavioral descriptions help maintain on-task behavior. Further investigation is needed to better understand the scope of this skill.

Methods employed in this study are a primary area for future research. This study involved experimenter-child interactions, yet PCIT involves only interactions between parents and children. Future component analyses should explore the differences between experimenter-child interactions and parent-child interactions and their effects on the individual components of PCIT.

Research on experimental designs for component analyses is also in need of further investigation. Based on some of the limitations of this study (e.g., fatigue and practice effects), it is possible that older children (e.g., ages 6-7) with longer attention spans could be more appropriate for this experimental design. In addition, alternative designs may provide a better method to examine components. Therefore, future studies should explore designs that reduce the number of experimental trials such as between-groups designs. However, it is also plausible that it would be difficult to detect differences using between-groups design given the small effect found in this study and the increased variability of such designs. Research should also search for a task that is more representative of demands for young children with oppositional tendencies. For example, a “free color” situation, where the child receives crayons, a blank paper, and no instructions on how to color may be more developmentally appropriate and may reduce noncompliant behavior in children.

Following further research on method and design, future research should also investigate the effects of individual PCIT components to determine which components are most crucial to the intervention. For example, continuing to separately evaluate the function of the PRIDE skills could improve therapy by emphasizing more effective components and potentially modifying less effective components. In addition to investigating individual components, the interaction between components should be explored.

Overall, this study provides some evidence supporting the clinical utility of behavioral descriptions. However, future research is needed to address current study limitations as well as investigate other components. As an intervention with multiple components, PCIT has empirical support (Brestan & Eyberg, 1998; Eyberg, Nelson, & Boggs, 2008), but further investigations of components may further improve the effectiveness and efficiency of the intervention.

**References**


