Training Head Start Teachers in Behavior Management Using Parent-Child Interaction Therapy: A Preliminary Investigation

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Abstract

The current project evaluated the use of behavior management techniques utilized in Parent- Child Interaction Therapy (PCIT) in head start classrooms. The sample included seven Head Start classrooms; four classrooms receiving treatment and three classrooms receiving no treatment. Evaluation of the progress included observation of teacher and student behavior and teacher report of class manageability and number of time-outs. Results indicated that child behavior improved throughout the study for both groups. Both groups of teachers also gave fewer timeouts, criticized the children less often, and rated their classes as more manageable from pre- to post-treatment. Teachers receiving training gave more labeled praise following treatment. These findings provide initial support for improving teacher behavior modification skills through the use of PCIT skills modified for Head Start classrooms.

Keywords: PCIT, Head Start, Teacher Training.

Problematic behaviors exhibited by young children have become a topic of concern. Research has found that the most common mental health problem in preschool-age children is externalizing behavior (e.g., aggression, defiance, tantrums; Campbell, 1990). These behavior problems extend into the classroom as well, and behaviors that disrupt the classroom environment have been increasing in recent years (as cited in Lara, McCabe, & Brooks-Gunn, 2000). More specifically, Head Start staff members are reporting an increase in the number of children displaying challenging and disruptive behaviors (Piotrkowski, Collins, Knitzer, & Robinson, 1994).

Forty-eight percent of teachers of young children indicated having students with severe disruptive behaviors in the classroom, and 41% of teachers reported a decrease in time devoted to learning due to attending to these behavioral problems (Peter D. Hart Research Associates, 1995). Approximately 10-15% of children in preschool exhibit problem behaviors that could be classified in the moderate to severe range (Campbell, 1995). In fact, Keenan and Wakschlag (2000) found that almost half of their sample of 79 clinic-referred preschool children (ages 2.5 to 5.5) met the Diagnostic and Statistical Manual – Fourth Edition (DSM-IV) criteria for conduct disorder while three quarters met criteria for oppositional defiant disorder. In addition, approximately 8-12% of children have problems that would benefit from intervention (Brandenberg, Friedman, & Silver, 1987).

Despite the increase in classroom behavior problems, teachers report deficiencies in managing these behaviors. Merrett and Wheldall (1993) found that 72% of teachers were displeased with the training they received in classroom behavior management while almost 75% of teachers reported they were not prepared to manage children with special needs, including

behavior problems. In fact, 37% of Head Start staff identified classroom behavior problems as a major concern for Head Start children (Piotrkowski, Collins, Knitzer, & Robinson, 1994). Surprisingly, Head Start research has found that Head Start children with behavior problems show little or no improvement in either disruptive behavior or emotional problems from the beginning to the end of the program year (U.S. Dept. of Health & Human Resources, 2001). Behavior management strategies comprised 3 of the top 5 areas in which Head Start staff requested additional training (Buscemi, Bennett, Thomas, & DeLuca, 1995). Teachers indicated that additional training may reduce stress and help decrease problem behaviors among students (Merrett & Wheldall, 1993). Therefore, it is important to provide classroom instructors with effective strategies to manage classroom behaviors.

Behavioral parent training (BPT) programs are efficacious treatments used to decrease disruptive behaviors in young children (e.g., Brestan, Eyberg, Boggs, & Algina, 1997; Kazdin & Weisz, 1998; McNeil, Eyberg, Eisenstadt, Newcomb, & Funderburk, 1991). One BPT program, Parent-Child Interaction Therapy (PCIT), is a two-phase, short-term, empirically supported treatment program designed for parents and their 2- to 7-year-old children who are exhibiting externalizing and noncompliant behavior problems (Eyberg & Matarazzo, 1980; Eyberg & Robinson, 1982; Hembree-Kigin & McNeil, 1995). The two phases of PCIT include Child-Directed Interaction (CDI) where parents learn positive parenting skills and selective attention, and Parent-Directed Interaction (PDI), which involves command training for parents and compliance training for children. The efficacy of PCIT has been documented in several research studies. Following the completion of PCIT, research has shown that parents' use of appropriate parenting skills improves (as demonstrated by their use of PCIT skills) while the child's disruptive and noncompliant behaviors decrease from a clinically significant elevation at pre-treatment to within normal limits at post-treatment (e.g., Eisenstadt, et al., 1993; Schuhmann et al., 1998). In addition, reductions in behavior problems have been found to generalize from the clinic setting to both the home environment and classroom (Eisenstadt, et al., McNeil, Eyberg, Eisenstadt, Newcomb, & Funderburk, 1991; Schuhmann et al.). Follow-up studies have found that treatment gains are maintained in the home setting at both one- and two-year follow-ups (Eyberg , Funderburk, & Hembree-Kigin, 2001).

Although attrition rates are high for parent training programs, no studies were found addressing premature termination of classroom behavior management programs by teachers. With parent training, Fernandez and Eyberg (2005) found that at pre-treatment mothers who were depressed, experiencing high levels of parenting stress, engaging in sarcastic and critical interactions with their children, and receiving few supportive verbalizations from the therapist were likely to drop out of treatment. Perhaps these pre-treatment predictors of parental attrition could extend to teachers as well. For example, many classroom demands, several children with severe behavior problems, limited behavior management skills, and inadequate classroom assistance may predict which teachers will fail to implement classroom behavior management skills and complete training programs.

As PCIT has decreased problem behaviors in children and increased parental behavior management skills, classroom behaviors may be targeted with these techniques as well. In fact, preliminary data (McIntosh, Rizza, & Bliss, 2000) provide initial support for the use and modification of PCIT in the classroom setting. McIntosh, Rizza, and Bliss used a single-subject

case study design to examine PCIT adapted to a preschool setting with a two-year-old child. Teacher-Child Interaction Therapy (TCIT) consisted of improving the teacher-child relationship (CDI) and reducing child problem behaviors through giving effective commands and timeout (Teacher Directed Interaction, TDI). The teacher practiced skills during five minutes of special time each day with the target child. The teacher was coached in the use of the skills while interacting one-on-one with the child. Most of the twelve twenty-minute coaching sessions (5 CDI and 7 TDI) were conducted in another room outside the classroom. The teacher's use of positive skills (behavioral descriptions, reflections, labeled praises) increased, while the number of questions decreased throughout the study. Positive skills appeared to remain higher, on average, throughout treatment than the baseline assessment. Upon implementation of TDI, teacher use of commands and child disruptive behavior decreased and remained low throughout the study, while child compliance improved.

As part of a larger study, Filcheck, McNeil, Greco, and Bernard (2004) implemented PCIT in one preschool classroom with one teacher and 17 children. The entire classroom was videotaped for 1 hour each day during a structured activity (i.e., circle time). Teachers received a one hour CDI didactic and a 1.5 hour PDI didactic training. Upon the completion of each training, teachers were coached for 2 hours in the use of skills for that particular phase of treatment (i.e., CDI and PDI). During the PDI phase, the timeout sequence was rehearsed with the children to ensure their understanding in the discipline procedure. Teachers were coached to mastery criteria for each condition with one, two, and three children outside the classroom. Following attaining mastery criteria, teachers were observed and received immediate feedback while utilizing the skills with the entire class for the first 2 days of each condition. Results indicated that child inappropriate behavior decreased with the implementation of CDI and continued to decrease in the PDI condition. Teacher behavior also improved with training. More specifically, labeled praise increased with CDI, but decreased during PDI and follow-up. Unlabeled praise increased with CDI, but decreased slightly in PDI and follow-up. Finally, use of criticisms decreased during CDI and remained stable during CDI, PDI, and follow-up phases. All child and teacher behaviors had improved following training as compared to baseline levels.

Research has found that when parents are trained in PCIT skills, child disruptive behaviors decrease as well as parental behavior modification skills increasing. Therefore, teacher use of PCIT skills in classrooms may help to decrease disruptive behaviors in the classroom and increase teachers' skills in managing these classroom behaviors. Similar to McIntosh, Rizza, and Bliss (2000) and Filcheck, McNeil, Greco, and Bernard (2004) the current study investigated the efficacy of utilizing PCIT skills in the classroom setting. However, unlike the authors, the current study examined utilizing a group design to examine the modification of PCIT with teachers in Head Start classrooms.

Hypothesis one: Efficacy. Receiving teacher training would be more effective in managing classroom behavior than receiving no teacher training. More specifically, it was hypothesized that child behavior in the treatment group would improve following training, as compared to control group children. In addition, teachers in the treatment group would report fewer time-outs and higher class manageability ratings at post-treatment as compared to teachers in the control group.

Hypothesis two: Teacher skill. Teachers in the treatment group would utilize more behavior management strategies than teachers in the control group. More specifically, it was hypothesized that treatment group teachers would use more labeled praise and less criticisms than teachers in the control group at post-treatment. It further was hypothesized that teachers in the treatment group would use more unlabeled praise as a carryover effect of being trained in the use of more labeled praise.

Method

Setting

Data were collected in eight Head Start classrooms in southwestern Pennsylvania. However, data for eight classrooms were utilized as pre-treatment data, while seven classrooms were used for post-treatment analyses as one teacher was on vacation during post-treatment data collection.

Participants

Participants included teachers and students from eight Head Start classrooms in southwestern Pennsylvania. Classrooms were randomly assigned to one of two groups. The treatment group consisted of four teachers and 16 children (four from each classroom). The control group consisted of four teachers and 16 children (four from each classroom) as well. Pre-treatment data were collected for all eight primary teachers and 32 children. Data collected following the completion of the project, however, included seven total teachers (four treatment, three control) and 25 children (13 treatment, 12 control). Missing data at post-treatment was due to the teacher on vacation and children either were absent or had withdrawn from Head Start.

Measures

Dyadic Parent-Child Interaction Coding System-Second Edition (DPICS-II; Robinson & Eyberg, 1981). Teacher behaviors that were recorded were labeled praise, unlabeled praise, and criticism. Each labeled and unlabeled praise and criticism were coded during 10-second intervals. Observations were conducted by a graduate research assistant and were approximately 40 minutes in length. One observation was completed for each classroom at pre-treatment and one observation for each classroom at post-treatment. Only primary teachers were coded in this study.

Teacher Rating of Class Manageability. Each teacher in each classroom completed a daily evaluation of the manageability of the classroom. The teacher rated the level of classroom manageability on a 5-point Likert scale ranging from 1 (completely unmanageable) to 5 (completely manageable). Teachers filled out classroom manageability ratings for five days at pre-treatment and five days at post-treatment.

Time-out Log. Each teacher in each classroom completed a daily time-out log. The teacher recorded the number of time-outs received each day. The time-out logs were completed for five days prior to treatment implementation and five days following treatment completion.

Revised Edition of the School Observation Coding System (REDSOCS). The REDSOCS (Jacobs, Boggs, & Eyberg, 2000) is an interval coding system used to measure both teacher and student classroom behavior. Participants are observed for 10-second intervals, and behaviors

immediately are rated. Observations for the current study were approximately 40 minutes in duration and occurred during structured activities. Teacher behaviors (labeled praise, unlabeled praise, and criticism; adapted from the Dyadic Parent-Child Interaction Coding System – Second Edition; Eyberg, Bessmer, Newcomb, Edwards, & Robinson, 1994) and child behaviors (inappropriate or appropriate) were coded simultaneously. Each unlabeled and labeled praise and criticism was recorded despite which child was receiving the feedback. Percentages of child inappropriate behavior and teacher behavior were obtained by dividing the number of intervals coded by the total number of intervals. Jacobs et al. report good psychometric properties of the REDSOCS. Interobserver agreement for the Appropriate Behavior and Inappropriate Behavior categories were .85 and .83 respectively.

Interrater agreement. Interrater agreement data were collected for 20% of the pre-treatment and 20% of the post-treatment observations in this study. The experimenter chose observations coded randomly. Cohen's Kappa (Cohen, 1988) was calculated for observed dependent variables (i.e., child inappropriate behavior and teacher labeled praise, unlabeled praise, and criticism). Kappa was chosen as opposed to percent agreement because Kappa corrects for chance among observers and allows for use with several observers (Bryington, Palmer, & Watkins, 2004). Observations would have ceased, and coders would have been retrained to .75 Kappa if Kappa statistics fell below .60 on three consecutive occasions for any variables. Interrater agreement did not fall below .60 Kappa on three consecutive occasions, thus no retraining was required. Average Kappas for interrater agreement were as follows: .985 (.940 – 1.00) for inappropriate behavior, .995 (.981 – 1.00) for labeled praise, .968 (.950 – 1.00) for unlabeled praise, and .968 (.921 – 1.00) for criticism.

Procedure

Prior to treatment implementation, data were collected in all eight classrooms. Data included one direct observation per classroom of teacher and student behavior. In addition, teacher report of class manageability and number of time-outs received in each classroom were recorded for five days. Following the completion of pre-treatment data, teachers were randomly assigned to either the treatment or no-treatment control group.

Teachers, teacher's assistants, and classroom volunteers in the treatment group received a two-hour training in classroom behavior management skills (e.g., strategic attention, selective ignoring, redirection, praise). Teachers, assistants, and volunteers then were coached by the graduate research assistant in the teacher's classroom in the use of these behavior management skills. These staff members were coached in the skills with one student, more than one student, and with the entire classroom. An advanced doctoral graduate student coached the staff in the use of these skills until the staff members reached a pre-determined mastery criterion. A second two-hour training was provided to the treatment group after all staff in this group exhibited the skills according to the mastery criteria. The second training continued with the instruction of classroom behavior management skills (e.g., giving effective commands, handling disruptive behavior, time-out). The graduate student coached teachers and teacher's assistants in the use of these skills in the classroom. Classroom volunteers were not coached in the use of these skills, as volunteers did not participate in discipline procedures. Staff members were coached until they reached a pre-determined mastery criteria.

After all staff reached the mastery criteria, post-treatment data were collected for seven of the eight classrooms as one teacher in the control condition was on vacation. Post-treatment data included one direct observation per classroom of both teacher and student behavior. Teacher report of class manageability and number of time-outs administered in each classroom were recorded for five days following the completion of treatment.

Classroom Modifications to PCIT. Some modifications to PCIT were required for implementation in the classroom setting. First, training in PCIT skills was adapted for Head Start. More specifically, teachers received didactic instruction in a group setting. In addition, the CDI and PDI trainings each were conducted in two-hour workshops where teachers learned and role-played PCIT skills. Second, coaching was live and occurred in the teachers' classrooms with no bug-in-the-ear equipment. Teachers received progressive coaching until achieving mastery criteria for each phase. In other words, teachers were coached in the use of skills with first one child, then two children, then three, and so on until receiving coaching while interacting with the entire class. During coaching sessions, the coach sat beside the teacher and quietly provided immediate feedback on use of skills. Average length of coaching time was 7 hours for these teachers, which is shorter than the average of 4 hours in McIntosh et al. (2000) and Filcheck et al. (2004) and much shorter than the average of 12-14 hours with PCIT. Mastery criteria for CDI included teachers using 10 labeled praises, 10 reflections, 10 behavioral descriptions, and no more than three total questions, commands, and criticisms during a 5-minute observation/coding session. Mastery criteria for PDI included giving at least 4 commands, 75% of which must be direct and followed by the correct behavior (i.e., labeled praise for compliance and two-choices statement for noncompliance) during a 5-minute observation/coding session. Teachers rehearsed the time-out sequence in advance with children exhibiting the most challenging behaviors. This provided the opportunity for these children to acquire first-hand experience with the procedure while allowing other children in the classroom to learn the timeout sequence through observation.

A third modification was that skills were used for group behavior modification, as opposed to PCIT which utilizes behavior modification with individual children. For example, teachers used an ignoring signal when removing attention for child inappropriate behaviors. The teacher would place her thumb and fingers together and direct the ignoring signal toward the student engaging in problem behaviors. Because teachers and children rehearsed this signal, the child exhibiting inappropriate behavior and all other children in the classroom knew that these misbehaviors were being ignored. Thus, all individuals in the classroom (both teachers and students) ignored the inappropriate behaviors. Teachers were taught to use "When-Then" statements to guide child behavior. If teachers required child compliance and wanted to avoid a confrontive timeout consequence, "When-Then" statements could be used to encourage compliance. For example, if the teacher wanted children to form a line to travel to the cafeteria, the teacher could say, "When everyone is quiet, then we will walk to the cafeteria." These statements gave teachers a nonconfrontive option to gain compliance. Teachers were observed using the ignoring signal and "When-Then" statements during circle time. Teachers were pulled aside and provided feedback on ignoring, catching children being good and providing labeled praise, "When-Then" statements, and praising the opposite behavior. The teachers then rejoined the group and utilized the strategies discussed with the researcher. Praising the opposite behavior (i.e., Differential Reinforcement of Appropriate Behavior, DRA) also was used to gain

compliance without providing attention to misbehavior. With this strategy, teachers ignored inappropriate behavior and provided labeled praise for the opposite, appropriate behavior. For example, if a child was talking during circle time, the teacher provided praise to other children for remaining quiet (i.e., the opposite of talking). The teacher waited for the child who was talking to become quiet. Once that child was quiet, an enthusiastic labeled praise for following the rules was received from the teacher to provide attention for and reinforce appropriate behavior. Prior to utilizing the praising the opposite behavior technique, the teachers observed the researcher role-playing this skill with the classroom. The teachers then were able to ask questions and brainstorm with the researcher about implementing this strategy in their classroom.

Finally, timeout was modified for use in the Head Start classroom. Head Start utilizes timeout as a last resort strategy to be used after less-intrusive behavior management techniques have failed. In addition, Head Start policy indicates that timeout should be used in combination with approaches that have a positive focus and promote learning of appropriate skills (Dunlap, Fox, Hemmeter, & Strain, 2004). After consultation with the teachers and administration in this study, an agreement was reached to rename the timeout procedure the "Thinking Chair." This phrase emphasizes the positive aspect of timeout, providing the child with an opportunity to think about actions and consequences without receiving attention for misbehavior. Teachers were encouraged to avoid the use of the thinking chair for behaviors whose function was escape or avoidance to prevent reinforcement of these avoidant behaviors. Backup consequences for not accepting or staying in the thinking chair also were adapted for the classroom setting. PCIT often uses a backup room or restriction of privilege as backup consequences. For this study, the backup consequence was sitting in the thinking chair in the hallway. If this consequence was ineffective, the plan was to notify children's parents. However, this backup was not needed during the course of the study.

Results

The two groups differed at pre-treatment on number of timeouts, class manageability, and criticisms. More specifically, control group teachers gave more criticisms and rated their class as more manageable than treatment group teachers, while teachers in the treatment group gave more timeouts than teachers not receiving training. Analysis of variance (ANOVA) tests were conducted for all dependent variables to evaluate the effect of training on student and teacher behavior and class data. See table 1 for means, standard deviations, interaction statistics, and interaction effect sizes for dependent variables. Because the current study included two small groups of participants, the Wilks' Lambda statistic was reported as opposed to the more conservative Tukey post hoc test. For student inappropriate behavior, the Time main effect was significant, Wilks' $\Lambda = .43$, $F(1, 30) = 39.11$, $p < .001$, but the Time x Group interaction effect was nonsignificant, Wilks' $\Lambda = .94$, $F(1, 30) = 2.06$, $p = .16$. Partial $\eta^2 = .06$ indicated that the interaction between time and group accounted for 6% of the total variability in inappropriate child behavior. Follow-up pairwise comparisons indicated that the mean differences between pre- and post-treatment inappropriate behavior were significant for the treatment and control groups, $p < .01$. These results suggest that child behavior in both groups improved from pre- to post-treatment. These findings did not support hypothesis one.

Class data included number of timeouts and class manageability ratings. The Time main

effect, Wilks' $\Lambda = .69$, $F(1, 36) = 16.47$, $p < .001$, as well as the Time x Group interaction for timeouts were significant, Wilks' $\Lambda = .81$, $F(1, 36) = 8.57$, $p < .01$. Partial $\eta^2 = .19$ for the interaction indicated that the interaction between time and group accounted for 19% of the total variability in number of timeouts. Follow-up pairwise comparisons indicated that the mean differences between pre- and post-treatment number of timeouts were significant for the treatment group ($p < .001$) suggesting this group gave fewer timeouts following the study than before the study, providing partial support for hypothesis one. However, it is important to note that one teacher in the control group gave many more timeouts at pre-treatment than all other teachers. More specifically, this teacher gave 18 timeouts per day at pre-treatment, while the other teachers' number of timeouts ranged from 0 to 9. Thus, this teacher's data could have skewed results for timeout data. For class manageability, neither the Time main effect, Wilks' $\Lambda = .91$, $F(1, 33) = 3.45$, $p = .07$, nor the Time x Group interaction were significant, Wilks' $\Lambda = .99$, $F(1, 33) = .49$, $p = .49$, providing no support for hypothesis one. Partial $\eta^2 = .02$ for the interaction indicated that the interaction between time and group accounted for 2% of the total variability in class manageability ratings.

Teacher data included labeled praise, unlabeled praise and criticism. The Time main effect was significant for labeled praise, Wilks' $\Lambda = .14$, $F(1, 5) = 30.76$, $p < .01$, as well as the Time x Group interaction, Wilks' $\Lambda = .15$, $F(1, 5) = 29.39$, $p < .01$. Partial $\eta^2 = .86$ for the interaction indicated that the interaction between time and group accounted for 86% of the total variability in labeled praise. Follow-up pairwise comparisons found that the mean difference between pre-and post-treatment labeled praise was significant for the treatment group ($p < .001$) indicating that these teachers used more labeled praise following training than before the study partially supporting hypothesis two. For unlabeled praise, the Time main effect was not significant, Wilks' $\Lambda = .92$, $F(1, 5) = .09$, $p = .77$. There was a trend for the Time x Group interaction effect, Wilks' $\Lambda = .47$, $F(1, 5) = 5.57$, $p = .07$, to may be significant, also providing partial support for hypothesis two. Partial $\eta^2 = .53$ for the interaction indicated that the interaction between time and group accounted for 53% of the total variability in unlabeled praise. Finally, for criticisms the Time main effect was significant, Wilks' $\Lambda = .35$, $F(1, 5) = 9.29$, $p < .05$, but the Time x Group interaction effect was not significant, Wilks' $\Lambda = .93$, $F(1, 5) = .39$, $p = .55$, which did not support hypothesis two. Partial $\eta^2 = .07$ for the interaction indicated that the interaction between time and group accounted for 7% of the total variability in criticism.

Discussion

Teachers are identifying an increasing number of students as displaying problem behaviors in the classroom (as cited in Lara, McCabe, & Brooks-Gunn, 2000). In addition, teachers are reporting inadequate training in managing these disruptive behaviors (Merrett & Wheldall, 1993). The current study evaluated the efficacy of adapting parent-training skills (i.e., Parent-Child Interaction Therapy) for use by Head Start teachers to manage disruptive classroom behavior. Similar to the study by McIntosh, Rizza, and Bliss (2000) and Filcheck et al. (2004) some positive gains were noted with training.

Child inappropriate behavior improved throughout the study regardless of the group. Thus, this finding does not support hypothesis one, and no conclusions about the efficacy of the teacher training could be made from child data. It is important to note that pre-treatment data

indicated a low percentage of inappropriate behavior exhibited in all classrooms. In addition, child behavior may have improved due to developmental progression, as observations were conducted at the beginning and the end of the school year. At post-treatment, a floor effect occurred that made it difficult to detect any possible effects of treatment.

As suggested in hypothesis one, treatment group teachers' use of timeout decreased from pre-treatment to post-treatment, but control group teachers continued using similar amounts of timeouts. This finding is interesting because although treatment group teachers were taught a specific timeout procedure for disruptive behaviors, they chose to use this technique less often than before instruction. Teachers in the treatment group also learned several positive, less intrusive techniques to manage child behavior in the classroom. Thus, these teachers may have used these skills for behavior management, and used timeout as a last resort consequence. This decrease in number of timeouts also may be due to the infrequent misbehaviors exhibited by the children. Class manageability ratings did not differ between groups throughout the study, thus providing no support for hypothesis one. This finding could be attributed to infrequent child disruptive behaviors and timeouts implemented in the classroom. Children exhibiting few and minor behavior problems would lead to a manageable classroom environment for teachers. It is important to note that both groups rated their classes as fairly manageable at both points in time.

Following training in behavior management skills, teachers in the treatment condition used significantly more labeled praise than before training as compared to control group teachers. In addition, these data suggest that at pre-treatment teachers are providing approximately 3 labeled praises per hour. However, following training, treatment group teachers were giving 57 labeled praises per hour (almost one per minute), while control group teachers' labeled praises were maintained at pre-treatment levels. These findings support hypothesis two, and indicate that after training teachers learn and utilize this technique in their classrooms. Treatment group teachers received training in the use of labeled praise and were coached to a mastery criteria in this skill. The increased use of this positive strategy could produce a more positive classroom environment for both teachers and students. Thus, an important outcome to this study could have been a positive classroom climate where teachers feel confident in behavior management skills, and child self-esteem improves. Interestingly, prior to the study most teachers indicated that they frequently used praise in the classroom. However, our data suggest that teachers are providing praise for positive behavior much less frequently than they report (between 1 and 3 labeled praises in 40 minutes). Finally, teachers in the control condition used significantly more criticisms at pre-treatment than teachers in the treatment group. However, inconsistent with hypothesis two, the two groups did not differ in their use of criticisms at post-treatment. The lack of support for the hypothesis about criticisms could have been attributed to the children's behavior. Child inappropriate behavior occurred infrequently in all classrooms as supported by direct observations. As critical statements usually are associated with problem behaviors, teachers would not have the opportunity to use these statements. In addition, teachers in the treatment group infrequently were using criticisms at pre-treatment leaving little room for improvement in these skills. Thus, this floor effect may have prevented significant statistical effects.

Limitations

There were limitations with the current study. First, the sample size was very small thus decreasing statistical power. Additional findings may have resulted if the sample size were larger. In addition, child inappropriate behavior was occurring infrequently in the classroom. This could affect teacher ratings of class manageability, number of timeouts administered, as well as use of teacher skills in the classroom and confound the data and results. Because all Head Start classrooms in this study were located in one large school, teachers receiving training could have discussed skills with teachers receiving no training. Moreover, control group teachers had the opportunity to observe treatment group teachers utilizing the skills in various contexts (e.g., hallway, cafeteria, playground). Thus, teachers receiving no training could have acquired some skills through vicarious learning.

Generalizability of results to various populations should be done with caution. The current sample consisted of teachers and children from rural areas, mostly Caucasians, and low-income children. As a result, findings may not apply to urban schools, various ethnicities, or high-income populations. An additional limitation is that the two groups differed at pre-treatment on some variables, but these variables were not utilized as covariates in analyses because of the small sample size. No demographic information was obtained from teachers, parents, or students. This limitation makes it difficult to describe the sample and make further conclusions about generalizability of results. Finally, behavior observations were conducted once at pre-treatment and once at post-treatment for each classroom producing limited amounts of behavioral data and follow-up data were not collected.

Future Directions

The current study provides some promising results for using PCIT skills with teachers to manage classroom behavior. Yet, methodological limitations cause these results to be only preliminary and suggestive at this time. Future research should use a larger, more diverse sample to determine treatment efficacy. In addition, demographic data should be obtained from teachers, parents, and children to allow detailed discussion of the sample. Researchers should screen preschool or Head Start classrooms for child inappropriate behavior prior to treatment implementation to ensure that observations are conducted with children exhibiting frequent disruptive behaviors in the classroom to avoid problems with floor effects. Finally, future studies should obtain multiple observations of behavior at pre-treatment, post-treatment, and follow-up to provide a more complete picture of child and teacher behavior.

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Table 1

Descriptive and Time x Group Interaction Statistics for Dependent Variables

Dependent Variable	Treatment Group		Control Group		F	df	*p*	η_p^2
	M	*SD*	*M*	*SD*				
Inappropriate Behavior[a]								
Pre-treatment (*n* = 32)	9.90	8.18	16.25	12.80				
Post-treatment (*n* = 25)	.85	1.21	1.82	3.01				
Time x Group					2.06	(1, 30)	.162	.06
Timeouts[b]								
Pre-treatment (*n* = 8)	7.53	7.27	2.33	1.93				
Post-treatment (*n* = 7)	1.94	2.14	1.43	1.86				
Time x Group					.81	(1, 36)	.006	.19
Class Manageability[c]								
Pre-treatment (*n* = 8)	3.71	.69	4.17	.62				
Post-treatment (*n* = 7)	3.88	.93	4.56	.51				
Time x Group					.49	(1, 33)	.490	.02
Labeled Praise[a]								
Pre-treatment (*n* = 8)	1.25	1.23	.70	.87				
Post-treatment (*n* = 7)	19.48	5.63	.90	.43				
Time x Group					29.39	(1, 5)	.003	.86
Unlabeled Praise[a]								
Pre-treatment (*n* = 8)	7.08	5.34	9.58	5.79				
Post-treatment (*n* = 7)	11.15	5.02	4.31	2.30				
Time x Group					5.57	(1, 5)	.065	.53
Criticism[a]								
Pre-treatment (*n* = 8)	5.52	3.54	13.33	2.73				
Post-treatment (*n* = 7)	1.08	1.04	6.60	6.56				
Time x Group					.39	(1, 5)	.560	.07

Note. [a] indicates the dependent variables calculated by the average percent of the coding intervals containing that behavior. [b] indicates the average number of timeouts. [c] indicates the average manageability rating. η_p^2 represents partial eta squared as a measure of association.

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"A Reply to Recent Public Critiques…"

O.I. Lovaas and Scott Wright
For the Lovaas Institute

Abstract

TIME magazine featured a couple treatments for autism in its May 7, 2006 issue. One article in particular "Tale of Two Schools" by Claudia Wallis was especially critical of behavioral treatment. Many behavioral treatment professionals in the autism community were unhappy with the piece, and the Lovaas Institute, as well as others, decided to be proactive by responding quickly with a letter to the editor. The editor later wrote us to say he felt other letters made a "better, more compelling case" for ABA and so ours was not used. Below is the shortened version of the letter the Lovaas Institute sent to TIME to meet the criteria of 120 words or less set by the editors. Another version follows which is also relevant to other current public critiques.

-- Dr. O. Ivar Lovaas

Keywords: Reply, early behavioral intervention, Discrete trial Training.

It's difficult enough for parents of children with autism to decipher treatment information and now Claudia Wallis' "Tale of Two Schools" (May 15) has added misinformation to the equation. She quoted a 2000 study rather than recent research from 2005 and 2006 demonstrating the effectiveness of behavioral treatment and replicating my '87 study. Again, children with autism showed substantial improvement in IQ, adaptive behavior, and social skills. Rather than play on a parent's emotions or use pleasant terminology (such as "being intentional"), ABA holds itself to a higher standard - ongoing analysis and evaluation, normative tests and assessments, and long-term outcomes in peer-reviewed journals. This approach continues to be the best hope for the majority of children with autism.

In Dickens' A Tale of Two Cities, a man misrepresents himself in order to help another stay alive. Perhaps then, we should not be surprised that in TIME magazine's "A Tale of Two Schools" (May 7, 2006) the author must misrepresent ABA therapy in order to help another approach to autism treatment gain credibility. Critiques of behavioral treatment often come from those who purport to have cutting-edge information or a different perspective on teaching children with autism in general. However, rather than a balanced discussion, critiques all too often leave out recent research, repeat age-old stereotypes, and fail to make important distinctions.

First, with over 500 scientific articles on autism and ABA between 1985 and 2006, why do authors continue to pick apart single articles without placing them in the context of the whole? For example, some cite the 2000 Smith study as an example of less impressive results for behavioral treatment. However, they fail to mention that children received an average of 25 hours of behavioral treatment rather than the average of 40 hours per week in the 1987 Lovaas study. As an analogy, imagine a student going through high school for only half the day and consider whether such a student would be prepared for college. In more current research from 2005, and one of the few studies to directly compare two treatments for autism, Jane Howard and colleagues demonstrated that behavioral treatment was far superior to a typical special education approach. Better yet, the 2005 Sallows study published data replicating the 1987 Lovaas study. In this case, 48% (11 of 23) of the children with autism, who received almost 40 hours per week of

behavioral treatment for two years, attained a normal IQ and tested within the normal range on adaptive and social skills.

Second, standard criticisms of ABA (creating robotic behavior, the inability to use skills outside of therapy, rote learning, unemotional and militaristic drilling of information, etc.) are placed in opposition to newer therapies that teach spontaneity and creativity in a fun, interactive environment. Unfortunately, standard criticisms of ABA are either age-old stereotypes, or fail to address the ongoing development of behavioral treatment, recorded in the literature and spanning the last 40 years. Behavioral treatment includes an emphasis on child motivation, uses fun activities in the natural environment to teach new skills, and continually focuses on establishing a relationship between children and teachers based on success and social interactions.

Finally, some act as if ABA therapy is losing ground as questions about its procedures begin to arise. However, recent years have not brought questions about ABA; questions and controversy have been around since the beginning. Language plays a part in this controversy. There is only so much information that a word, letter to the public, journal articles, etc. can get across. For example, much time and energy has been devoted to whether the term "recovered" should have been used in the 1987 Lovaas study while little attention is paid to the fact that the study itself mentioned the limitations of the term "recovered." The nature of scientific investigation plays a part in this controversy. Scientific investigation has rigorous standards in an attempt to sift out human bias that can intrude into any investigation. This letter to the public cites current research from 2005, but that does not mean these articles are flawless. At the same time, the procedures they follow, and their own discussions of their strengths and limitations, give them more credibility than the testimonials and suppositions often provided by other treatments. In fact, one needs only to read the 1987 Lovaas study to find Dr. Lovaas' criticisms of his own work. Like all good science, rather than play on a parent's emotions or use pleasant though vague terminology, behavioral treatment holds itself to a higher standard - normative tests, long-term outcomes in peer-reviewed journals, and the ongoing questioning that leads to better results. In truth, it is behavioral treatment that remains cutting-edge, for it has changed, and remains open to change based on continued discussions and research. This approach has been and continues to be, the best hope for the majority of children with autism.

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