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Title: The Effects of Parent-Child Interaction Therapy (PCIT) on Problem Behaviors in Three Children with Autistic Disorder.

Brief Summary of Project: This study aims to evaluate the effects of PCIT on problem behaviors, specifically noncompliance, in three children with Autistic Disorder. A multiple baseline design is utilized to examine effects of treatment for each child while using individual baselines to ensure change in behavior are due to treatment effects.

Introduction and Overview:

Estimates of diagnosable disruptive behavior disorders in young children have ranged from 5 to 16 percent (Bagner, Fernandez, & Eyberg, 2004; Nixon, 2001) over the past 10 years. Children with developmental disabilities, including autism spectrum disorders (ASD), are especially at risk to develop problem behaviors (Horner, Carr, Strain, Todd, & Reed, 2002). Children with ASD are most severely impacted in the areas of socialization, communication, and repetitive behaviors and restricted interests. These impairments in the areas of communication and socialization increase the risk for problem behaviors (Horner et al., 2002), making children with ASD likely to display problem behaviors that warrant treatment (Rutter, 1985).

Many hypotheses regarding the etiology of problem behaviors have been related to parent-child interactions during early childhood. Patterson's coercive theory (1982) suggests problem behaviors develop following maladaptive parent-child interactions and attachment theory suggests insecure attachments with parents contribute to the development of problem behaviors (Foote, Eyberg, & Schuhmann, 1998). These maladaptive parent-child interactions are often inadvertently reinforced, resulting in increases in problem behaviors. The same principles used to explain the development of these problem behaviors (i.e., positive and negative reinforcement) are often used to break the cycle, extinguishing problem behaviors and teaching appropriate replacement behaviors. Many effective strategies for managing problem behaviors in children with ASD or other developmental disabilities are based on behavioral theory, with many utilizing parent training as the means to change the child's behavior (Lerman, Swiezy, Perkins-Parks, & Roanne, 2000).

Parent-Child Interaction Therapy (PCIT) is a parent training model that utilizes play therapy and behavioral techniques and focuses on improving the relationship between the parent and the child in order to make parents effective in managing their child's behavior, producing increases in desired behaviors and decreases in undesired behaviors (Querido, Bearss, & Eyberg, 2002). PCIT incorporates principles and strategies that have been successfully used to manage problem behavior in children with ASD and is an empirically validated treatment for typically developing children with disruptive behavior disorders (Eyberg, 2005). PCIT uses a live coaching model to teach parents the necessary skills to improve parent-child interactions and manage problem behaviors. The empirical support for PCIT in treating disruptive behaviors in young children and the similarities between PCIT and strategies used to manage problem behaviors in children with autism (Lerman et al., 2000; McDiarmid & Bagner, 2005), suggest it is reasonable to evaluate

PCIT as a treatment to manage problem behaviors in children with ASD, which is the purpose of the present study.

The present study uses a single-subject, multiple baseline design across subjects to examine the impact of PCIT on children with autism. Both global behavior rating scales and direct observations of behavior will be utilized to evaluate behavior change. Additional data will be collected on stress associated with parenting, severity of problem behaviors, satisfaction with treatment, and social interactions specific to deficits typically found in children with autism spectrum disorders. The design also allows the collection of specific data on the rate of behavior change and possible variables in treatment contributing to behavior change. The following include the specific hypotheses for this study:

- Target problem behaviors, collected via observations during problematic routines in the home, will significantly decrease for all participants following PCIT.
- In all three participants, scores on a global behavior rating scale will move from the clinically significant range to within normal limits following PCIT.
- All three participants will show an increase in prosocial behavior following completion of PCIT.
- A decrease in target behaviors will only occur following treatment implementation and completion.

Methodology

Participants. Participants will include three preschool aged boys (ages 3, 5, & 7), along with their parents. All participants met screening criteria, having a diagnosis of Autistic Disorder, with a receptive vocabulary of at least 2 years, history of problem behaviors for at least 6 months, scores in the clinically significant range on a behavior rating scale, and a high frequency of noncompliance (at least 25% of the time).

Measures. The following measures were selected to provide a balance between global ratings of behavior and specific ratings of behavior in the child's natural setting. Additional measures of parent stress and socialization were selected to evaluate the effects of PCIT on other variables related to autism in addition to problem behaviors.

The *Eyberg Child Behavior Inventory (ECBI)* is a parent-rating scale of disruptive behavior for children ages 2 through 16, examining frequency of behavior.

The *Parenting Stress Index - Short Form (PSI-SF)* is a self-report measure of parent stress related to parenting.

The *Sutter-Eyberg School Behavior Inventory-Revised (SESBI-R)* is a teacher rating scale of disruptive behaviors at school, similar to the ECBI.

Data on *target problem behaviors (noncompliance)* will be collected using an interval recording system, computing percent of noncompliance for each 15 minute observation.

Social interaction data will be collected during videotaped parent-child interactions using the same videotaped segments that will be coded for target problem behaviors.

The *Therapy Attitude Inventory (TAI)* will be used to evaluate parent satisfaction with the treatment process and child behavior following treatment.

Procedures

Data collection procedures will be identical for each case. Parents will complete the ECBI and PSI prior to beginning each therapy session. The child's teacher will complete the SESBI-R prior to the first session (no more than one week) and following the last session (no more than one week). A 15-minute parent-child interaction will be videotaped in the home setting twice per week. Data collection will alternate between two problematic activities or routines in which the target behavior is likely to occur. In order to decrease the burden of data collection for the family and prevent extended periods of time without treatment (i.e., baseline), a probe system will be utilized during baseline phases. Data will be collected twice a week for Child # 1 during both baseline and treatment phases. During this time, data will be collected one time per week for Child # 2 and # 3. Once child # 1 begins treatment, data will be collected twice a week for child # 2. Once child # 2 begins treatment, data will be collected twice per week for child # 3. This probe system allows for continuous data collection across all phases and all subjects, while decreasing the frequency of data collection during the no treatment phases.

A multiple baseline design will be utilized to evaluate the impact of PCIT on target problem behaviors in three children with Autistic Disorder. Data collection on target problem behaviors (noncompliance) will begin simultaneously for all three children, using the data collection system described above. The target behavior identified during the initial assessment, videotaped during parent-child interactions in the home, will be the primary dependent variable and plotted to determine when to begin treatment with each child. Treatment for child # 1 will begin when stability in data is achieved during baseline. Treatment will begin for child # 2 following three consecutive data points suggesting a decrease in the target behavior for child #1 and when stability in baseline data is achieved for Child # 2. The same criteria will be used to begin treatment for child # 3, using child # 2 behavior data. If the above criteria is not met, treatment will begin for families when the previous family has completed the first phase of treatment.

Each family will receive PCIT, per the research manual guidelines). Treatment will not be time-limited and will continue until the child no longer scores in the clinically significant range on the ECBI and the parent(s) master the interaction skills in session and feel ready to terminate. Typical PCIT treatment lasts between 8 and 16 sessions, with a one-hour session occurring per week. In this study, treatment sessions will occur on a bi-weekly basis. Bi-weekly sessions will be used in order to: 1) decrease time in baseline; 2) decrease time in treatment for families; and 3) increase contact with families (increasing opportunities for practicing skills, providing feedback to families, and increase the intensity of the therapy).

The treatment is comprised of two phases, with assessments occurring during the first session, including the ECBI, PSI, and parent-child observation measures. The first phase of treatment (Child Directed Interaction) focuses on improving the quality of the parent-child relationship by

increasing the positive interactions between the parent and the child. The second phase of the treatment (Parent Directed Interaction) focuses on decreasing inappropriate behaviors through selective ignoring, effective commands, consistent consequences and the use of time-out. Movement from one phase of the treatment to the next phase occurs when parent(s) have met the preset criteria for skill mastery in each phase.

Potential Findings and Discussion

It is suspected that participants will show a meaningful decrease in problem behaviors, increase in prosocial behaviors, and that parents will show a decrease in stress related to parenting. This study will also provide information about individual characteristics related to behavior change and information about possible accommodations or modifications that should be made to the PCIT protocol when using this treatment for children with ASD. If PCIT proves to be an effective treatment for problem behaviors in children with ASD and can be validated as an empirically based intervention in future studies, families and practitioners may have another viable treatment option. Because PCIT is a manual based treatment, this may help in disseminating effective treatments to more community based practitioners.

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