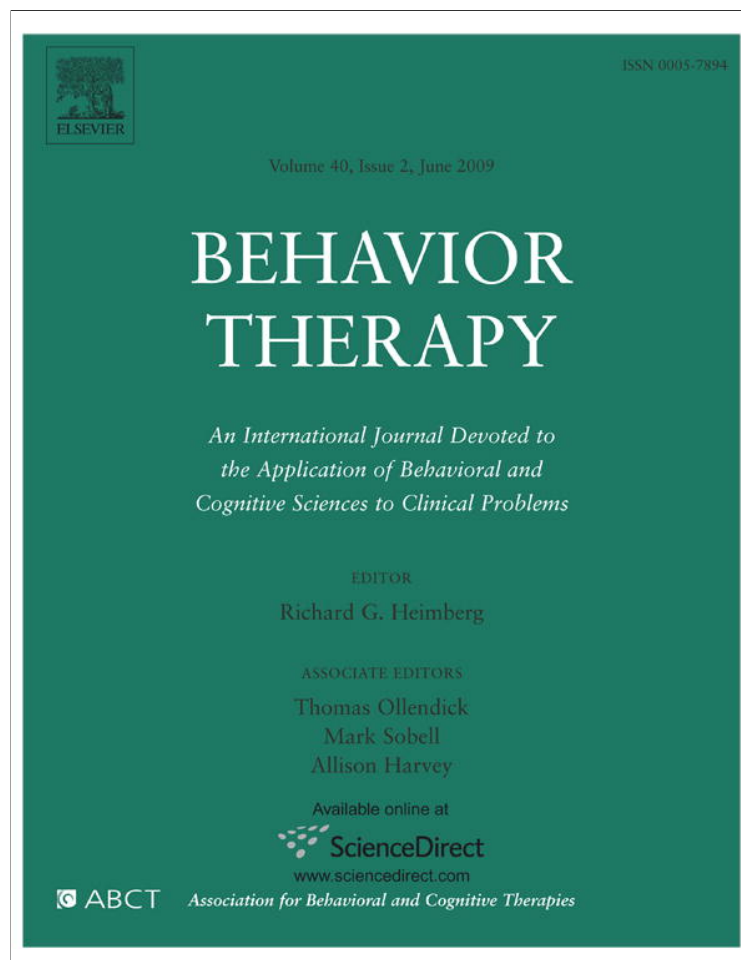


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A Comparison of Behavioral Parent Training Programs for Fathers of Children With Attention-Deficit/Hyperactivity Disorder

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Few behavioral parent training (BPT) treatment studies for attention-deficit/hyperactivity disorder (ADHD) have included and measured outcomes with fathers. In this study, fathers were randomly assigned to attend a standard BPT program or the Coaching Our Acting-Out Children: Heightening Essential Skills (COACHES) program. The COACHES program included BPT plus sports skills

training for the children and parent-child interactions in the context of a soccer game. Groups did not differ at baseline, and father ratings of treatment outcome indicated improvement at posttreatment for both groups on measures of child behavior. There was no significant difference between groups on ADHD-related measures of child outcome. However, at posttreatment, fathers who participated in the COACHES program rated children as more improved, and they were significantly more engaged in the treatment process (e.g., greater attendance and arrival on time at sessions, more homework completion, greater consumer satisfaction). The implications for these findings and father-related treatment efforts are discussed.

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FATHERS CONTRIBUTE TO MANY aspects of a child's development. Fathers positively involved with their children (i.e., spending time with a child, supporting the child, and having a close/warm relationship) have children with fewer behavior problems (Amato & Rivera, 1999; Hurt, Hoza, & Pelham, 2007). Fathers also contribute uniquely to their child's academic achievement and academic sense of competence (Amato & Gilbreth, 1999; Forehand, Long, Brody, & Fauber, 1986). Further, positive father involvement is related to the development of emotion regulation, social cognition, and focused attention, and perhaps due to these factors, appropriate peer relationships (Parke et al., 2002). Importantly, these are aspects of functioning that are among the most pronounced areas of impairment in children with attention-deficit/hyperactivity disorder (ADHD; Fabiano et al., 2006), a chronic disorder characterized by developmentally inappropriate levels of inattention, overactivity, and

impulsivity. Thus, for children with ADHD, positive father involvement may be an important treatment-related goal.

The inattentive, impulsive, and overactive behaviors characteristic of ADHD challenge parents to effectively manage child behaviors, and over time, parents may develop a parenting approach that includes poor monitoring and inconsistent or punitive discipline strategies. Unfortunately, this type of approach predicts a number of negative adolescent and adult outcomes, including alcohol and substance abuse, delinquency, and academic failure (e.g., [Lochman & Wells, 2002](#)). In addition to predicting negative outcomes for children, noncontingent and inconsistent parental discipline predicts the development of future maladaptive parenting strategies ([Granic & Patterson, 2006](#)). Therefore, to promote effective parenting skills, behavioral parent training (BPT) interventions have been developed and studied. A typical BPT program teaches the child's parent how to effectively modify antecedents (e.g., rules, commands) and consequences (e.g., time-out, rewards) for target behaviors (e.g., compliance, noncompliance) as well as modify maladaptive cognitions related to parenting. BPT is an evidence-based treatment for a number of childhood externalizing and internalizing mental health problems ([Chorpita et al., 2002](#)).

The finding that parent training is an effective treatment is tempered by the fact that adherence to parent training programs is often poor. For example, more than half of the families who enroll in clinical parent training programs never attend treatment or discontinue treatment prematurely (e.g., [Barkley et al., 2000](#); [Helfenbaum-Kun & Oritz, 2007](#); [Kazdin, 1996](#); [Miller & Prinz, 1990](#); [Prinz & Miller, 1994](#)). Even participants who do regularly attend BPT sessions may arrive late for treatment sessions, fail to complete homework assignments, and/or miss a significant number of sessions ([Cunningham, Davis, Bremner, Dunn, & Rzasa, 1993](#)). These rates of attendance and adherence are problematic due to the fact that ADHD is now conceptualized as a chronic condition, and therefore ongoing engagement of families in treatment is necessary ([American Academy of Pediatrics, 2001](#)). Researchers have therefore directed attention toward increasing the engagement of parents in BPT ([Chronis, Chacko, Fabiano, Wymbs, & Pelham, 2004](#)), and fathers of children with ADHD are a specific group that may be targeted by engagement efforts.

STUDIES OF FATHERS IN PARENT TRAINING FOR ADHD

Traditionally, men do not engage in help-seeking behavior, be it for medical or mental health services

([Addis & Mahalik, 2003](#)). These findings appear to generalize to participation in BPT programs ([Fabiano, 2007](#); [Tiano & McNeil, 2005](#)). Overall, fathers (defined broadly as any primary male caregiver) are underrepresented in studies of treatment outcome for BPT ([Fabiano, 2007](#); [Lee & Hunsley, 2006](#); [Phares, 1996a](#); [Phares, 1996b](#); [Tiano & McNeil, 2005](#)). Indeed, when ADHD is considered, there are only three peer-reviewed studies that directly investigate the effectiveness of parenting interventions for fathers ([Barkley et al., 2001](#); [Danforth et al., 2006](#); [Schuhmann et al., 1998](#); see [Fabiano, 2007](#), for a review).

[Barkley et al. \(2001\)](#) compared a parenting program that used a contingency management approach ([Barkley, 1997](#)) to a parenting group that combined problem-solving communication training with a contingency management approach for families with an adolescent with ADHD. In this study, fathers in both groups exhibited improvement during active treatment but had some worsening in behavior during a follow-up assessment. In addition, there was a considerable rate of attrition in the study, with the highest rates in the group that did not include contingency management training. However, this study is limited because the sample of ADHD participants included only adolescents; how the results might differ with school-age children is unknown.

[Danforth et al. \(2006\)](#) conducted a BPT study with 46 mothers and 26 fathers and evaluated outcome by measuring child and parenting behaviors before the intervention and after it ended 8 weeks later. Mothers and fathers reported significant decreases in their child's ADHD-related behaviors. However, on self-report and objective measures of parenting, fathers did not appear to benefit as much from the intervention as mothers. Mothers' self-reports indicated improvement on all parenting domains assessed, whereas fathers rated a more inconsistent pattern of results. On an objective measure of parenting—taped-recorded parent and child behaviors during a typical home situation—mothers' parenting behaviors and mother-child interactions were improved. However, none of these objective measures were significantly improved for fathers. Along with [Barkley et al. \(2001\)](#), [Danforth et al. \(2006\)](#) highlight the need to measure fathers as distinct participants from mothers and children, as their response to interventions and treatment outcomes may be different.

Finally, [Schuhmann et al. \(1998\)](#) reported on fathers who participated in a BPT intervention that used Parent-Child Interaction Therapy with young children with ADHD and/or other disruptive behavior disorders. Fathers clearly benefited, with

significant effects of the intervention demonstrated on self-report as well as in observations of parent-child interactions. One limitation of this study was the restricted age range of the children (4 to 6 years old). Further, all three studies included mothers and fathers who attended BPT together, so the impact of BPT for fathers of children with ADHD independent from mothers cannot currently be addressed.

Considering the broader literature on BPT for all disruptive behavior disorders, others have also highlighted the lack of information on father participation in and benefit from BPT programs (e.g., Miller & Prinz, 1990; Phares, 1996a; Tiano & McNeil, 2005). Some studies have reported limited improvements attributed to father participation in BPT (e.g., Firestone, Kelley, & Fike, 1980; Helfenbaum-Kun & Ortiz, 2007; Martin, 1977), some have reported mixed results (e.g., Anastopoulos & Farley, 2003; Danforth et al., 2006), and others have reported improvements on the part of fathers' parenting skills and ratings of child behavior (e.g., Schuhmann et al., 1998; Webster-Stratton & Hammond, 1997). Other studies that investigated the maintenance of treatment gains from BPT also support father involvement (Bagner & Eyberg, 2003; Webster-Stratton, 1980). However, the state of the literature is equivocal—there is no clear information on the benefit of father participation on BPT-related outcomes. In addition, available studies have methodological limitations that make any firm conclusions imprudent. These limitations include a lack of father-completed measures (e.g., Martin, 1977), inconsistent father participation across families (e.g., Danforth et al., 2006; Schuhmann et al., 1998), and in all cases reviewed, mothers were involved in treatment along with fathers, making the independent effect of BPT for fathers difficult to ascertain.

This finding of underrepresentation of fathers in the BPT literature is consistent with reviews of the child psychopathology and pediatric literatures (Cassano, Adrian, Veits, & Zeman, 2006; Phares & Compas, 1992; Phares, Fields, Kamboukos, & Lopez, 2005; Phares, Lopez, Fields, Kamboukos, & Duhig, 2005). Second, most of the studies have methodological limitations or limited generalizability that make widespread recommendations for father BPT tenuous at best (Tiano & McNeil, 2005). Further, only three peer-reviewed studies have specifically addressed father involvement in children with ADHD, even though BPT is a first-line treatment for the disorder (American Academy of Pediatrics, 2001; Pelham & Fabiano, 2008). Finally, there is no study to the authors' knowledge that investigates father participation and benefit from a BPT program, independent from another parent

(e.g., the child's mother) who also participated, which is a critical first step in the investigation of the efficacy of BPT for fathers of children with ADHD.

Therefore, a study was conducted to investigate the effectiveness of BPT for fathers of children with ADHD. The present study was conducted to determine whether a novel format of BPT that included sports activities and parent-child interactions in a father-friendly context resulted in improved child outcomes relative to a standard BPT program. Sports activities were emphasized in the current project because behavioral interventions implemented within the context of recreational activities is recognized as an evidence-based treatment for ADHD for children (Pelham & Fabiano, 2008), and interacting with children in such activities is an area in which fathers consistently play a prominent role (Child Trends, 2002; Russell & Russell, 1987). An additional aim was to investigate whether a program designed explicitly for fathers resulted in increased participation and engagement relative to a standard BPT program. It was hypothesized that fathers in both BPT groups would benefit from their respective programs as measured by ratings of child functioning but that the BPT program that included sports activities would result in increased father engagement, consumer satisfaction, and adherence.

Method

RECRUITMENT AND PARTICIPANTS

Between September 2001 and March 2004, 75 fathers were recruited through radio advertisements, mailings, and physician or school referrals to participate in a research study. Participants were fathers of children 6 to 12 years old diagnosed with ADHD through mother, father, and teacher rating scales of ADHD symptoms (Pelham et al., 1989; 1992). Cross-situational impairment was assessed with parent and teacher ratings on the Impairment Rating Scale (IRS; Fabiano et al., 2006). Diagnostic procedures conformed to recommendations for the evidence-based assessment of ADHD (i.e., they included parent and teacher reports, an evaluation of cross-situational impairment, and an interview to ascertain age of onset and the function of impaired behaviors; Pelham, Fabiano, & Massetti, 2005). Children were excluded if there was evidence of psychosis or autistic spectrum disorders. Families were also excluded if the parent or child did not speak English, or if either was unable to attend the Saturday morning program. If the child was taking medication at the time of study enrollment, families that participated in the study were asked to keep medication status consistent for the study duration.

Characteristics of the study participants are listed in Table 1, and the groups did not differ on any of these demographic variables or baseline ratings. The overall sample was comprised of primarily Caucasian boys living in homes with married/cohabitating parents. Approximately half the sample was prescribed medication for ADHD.

PROCEDURES

After providing informed consent and completing the initial assessment, fathers who met study eligibility criteria were randomly assigned to one of two groups: (1) the Coaching Our Acting-out

Children: Heightening Essential Skills (COACHES) program ($n=38$); or (2) a standard behavioral parent training group ($n=37$). This study design allowed for a comparison of the COACHES program to the existing, standard parent training format, which is the gold-standard approach for investigating whether a new treatment is better than or equivalent to an already established treatment (Lonigan, Elbert, & Johnson, 1998). The University at Buffalo Social and Behavioral Sciences Institutional Review Board approved the study.

Both BPT groups specifically addressed potential barriers to enrolling and participating in the study—each father was involved in the intake/assessment process, groups were held on the weekend to accommodate working parents, child care was provided, and the groups were conducted at a location next to a major public transportation line. The treatment programs themselves also incorporated procedures that were intended to increase father engagement. For instance, both groups used a coping-modeling-problem-solving approach for parent training, shown to have advantages over didactic parent training formats (Cunningham, Bremner, & Boyle, 1995; Cunningham et al., 1993). The coping-modeling-problem-solving approach allowed the group members to identify the problems most meaningful to them, formulate their own solutions, and recognize how their own behavior may impact their child's behavior (Cunningham, Bremner, & Secord, 1998). Part of the BPT program also involved viewing videotapes of exaggerated parenting errors, identifying the errors, and then formulating alternative parenting strategies. This approach may be particularly useful for facilitating discussion and introducing parenting strategies to fathers, who may not view their own personal parenting approach as contributing to the child's problematic functioning (Chen, Seipp, & Johnston, 2008; Hoza et al., 2000). Finally, although fathers were encouraged to share information with a spouse/partner after each weekly session, both groups were composed of only fathers, as group homogeneity may contribute to increased group cohesion and treatment engagement (Perrone & Sedlacek, 2000; Yalom & Rand, 1966).

Fathers were enrolled in the study over six cohorts, with approximately 6 to 10 fathers in each group per cohort. Parent training classes were taught by two advanced graduate students with at least 2 years experience in teaching similar BPT classes. The program generally followed the Community Education Program (COPE; Cunningham et al., 1998) program, with modules pulled from

Table 1
Baseline characteristics and teacher ratings for COACHES and standard group participants

	COACHES ($n=38$)	Standard ($n=37$)
Child age in years	8.48 ($SD=1.62$)	8.92 ($SD=1.91$)
Child sex	87% male	84% male
Father age in years	41.91 ($SD=8.86$)	41.69 ($SD=6.14$)
Father years of education	14 ($SD=2.78$)	13.67 ($SD=2.35$)
Child race/ethnicity	84% Caucasian 11% AA 3% Asian 3% Biracial	84% Caucasian 11% AA 3% Latino 3% Asian
Father race/ethnicity	84% Caucasian 13% AA 3% Asian	87% Caucasian 11% AA 3% Asian
Marital status	89% Married/ Co-habiting 8% Separated/ Divorced 3% Single	78% Married/ Co-habiting 14% Separated/ Divorced 8% Single
Percent of children taking medication for ADHD	50%	57%
Teacher IOWA Conners I/O	10.37 ($SD=3.24$)	9.84 ($SD=4.02$)
Teacher IOWA Conners O/D	5.05 ($SD=4.76$)	6.22 ($SD=5.54$)
Teacher SNAP Peer items	0.82 ($SD=0.71$)	1.11 ($SD=0.79$)
Teacher DBD-I	1.73 ($SD=0.75$)	1.98 ($SD=0.73$)
Teacher DBD-H/I	1.70 ($SD=0.73$)	1.74 ($SD=0.85$)
Teacher DBD-ODD	0.97 ($SD=0.84$)	1.17 ($SD=0.92$)
Teacher IRS – Overall	4.49 ($SD=1.31$)	4.67 ($SD=1.36$)

Note. SD =Standard deviation. COACHES=Coaching Our ADHD Children: Heightening Essential Skills. AA=African-American. I/O=Inattentive/Overactive factor. O/D=Oppositional defiant factor. DBD-I=Disruptive Behavior Disorders rating scale, Inattentive factor. DBD-H/I=Disruptive Behavior Disorders rating scale, Hyperactive-Impulsive factor. DBD-ODD=Disruptive Behavior Disorders rating scale, Oppositional Defiant Disorder factor. IRS=Impairment Rating Scale. There were no significant differences between groups on any variables in the table. Some percentages sum to greater than 100% due to rounding.

other parenting programs to cover topics not addressed in COPE. Both BPT groups contained identical content: Session 1, Home Behavior Management Plan and House Rules (Arnold & the ADHD Cooperative Parent Training Group, 2008; Wells et al., 2000); Session 2, Attending and Rewarding (Cunningham et al., 1998); Session 3, Planned Ignoring (Cunningham et al., 1998); Session 4, Issuing Effective Comments (Forehand & Long, 1996; Wells et al., 2000); Session 5, Using When-Then Contingencies (Cunningham et al., 1998); Session 6, Using Time-Out (Cunningham et al., 1998); Session 7, Problem Solving (Cunningham et al., 1998); and Session 8, Programming for Maintenance (session based on the work of Barkley, 1997, and Wells et al., 2000). Table 2 illustrates the time spent on activities during the sessions for each group, and more detailed descriptions of each group are provided below.

COACHES. The COACHES program was an 8-week behavioral parent training program held for 2 hours each week (Fabiano, Chacko, & Pelham, 2001). It combines intervention components from the COPE parenting program and the summer treatment program recreational activity procedures to specifically target fathers' parenting (see Cunningham et al., 1998; Pelham, Greiner, & Gnagy, 1998). The COACHES program was created based on the premise that including a recreational, sports activity within the context of BPT for fathers would increase the palatability of the intervention because the treatment was framed as a program to help "coach children," rather than as a program to "train parents."

During the first hour, fathers reviewed how to implement effective parenting strategies in a group setting (e.g., using praise, using time-out). Concur-

rently, children practiced soccer skill drills with paraprofessional counselors, to increase competencies in the sports domain (Hupp & Reitman, 1999; Pelham, Fabiano, Gnagy, Greiner, & Hoza, 2005; Pelham et al., 1998; Pelham & Hoza, 1996; Pelham et al., 1990). Then, during the second hour the parent and child groups joined together for a soccer game. The soccer game provided a context for the fathers to interact with their children and practice the parenting strategies taught in the classroom (e.g., praise, using effective commands) and for clinicians to provide immediate feedback to the fathers (e.g., Pelham et al., 1998; Reitman, O'Callaghan, & Mitchell, 2005). After each quarter of the game, fathers met with the COACHES group facilitator, and the group had a brief, 5-minute meeting on the playing field. During the meeting, the facilitator asked parents to report on observations of the use of the weekly parenting strategy used successfully during the game (either their own use or use by others), asked them to answer attributional questions similar to those described in the COPE program (Cunningham et al., 1998), and offered a chance for fathers to ask each other for advice on how to handle situations that arose during the game. Fathers were assigned weekly homework assignments to review new material with their partner (if present) and practice these techniques with their child in the home setting.

Standard parent training. The standard parent training program was an 8-week behavioral parent training program held for 2 hours each week. Fathers engaged in a number of group discussion activities to learn about parenting strategies shown to be effective for children with ADHD. The group leader modeled the strategies, and fathers practiced them in each session by role-playing the procedures

Table 2
Similarities and differences in COACHES program versus the standard program

Schedule	COACHES	Traditional program
10 minutes	Review of homework from previous session (Introductions first week)	Review of homework from previous session (Introductions first week)
50 minutes	Small and large group discussions of weekly parenting program topic. Discussions include direct instruction, group discussions, and facilitator modeling of the strategy.	Small and large group discussions of weekly parenting program topic. Discussions include direct instruction, group discussions, and facilitator modeling of the strategy.
5 minutes	Break	Break
50 minutes	<i>Fathers participate with child in soccer game. During the game fathers practice the skills taught during the class with their child and receive on-line feedback from the facilitator.</i>	<i>Fathers generate situations where behavioral strategies can be used. The parent trainer models the implementation of these strategies, and fathers role play use of the strategies with each other.</i>
5 minutes	Explain homework procedures for the week and handout tracking sheets	Explain homework procedures for the week and handout tracking sheets

Note. Text in italics reflects differences in activities between groups. COACHES=Coaching Our Acting Out Children: Heightening Essential Skills program.

with each other. In the standard BPT program, there were no parent-child interactions that occurred during the session. Fathers were assigned weekly homework assignments to review new material with their partner (if present) and practice the techniques with their child in the home setting.

During the standard program, paraprofessional counselors supervised the children while they participated in small group activities, including board games, arts, and crafts. Children who met individualized behavioral expectations (e.g., no time-outs) were rewarded with computer time at the end of the 2-hour period.

MEASURES

Treatment outcome was assessed via father ratings across domains of symptoms and impairment collected during baseline assessments and at post-treatment. Baseline ratings were collected during an intake interview that occurred within 1 month of the first session of the program. Posttreatment ratings were collected within a two-week window following the last session of the program. At baseline and posttreatment assessments, mothers were also asked to complete the same rating scales fathers completed as a measure of generalization. Fathers in both BPT groups also completed a measure of consumer satisfaction. At all assessment points, if the child was taking stimulant medication at that time, raters were asked to rate the child's unmedicated behavior. Practically, this was done by asking the parent to consider times when the child was not receiving medication (e.g., in the evening, on weekends), or for children taking stimulant medication during most times in the home setting, after a 2-day medication withdrawal during the assessment period.

ADHD and oppositional-defiant disorder (ODD) symptomatology. ADHD *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV;* American Psychiatric Association [APA], 1994) symptoms were measured using the Disruptive Behavior Disorders rating scale (DBD; Pelham et al., 1992), which was administered to the child's father and mother. The DBD is a 45-item measure that asks parents to rate the DSM symptoms of ADHD, ODD, and conduct disorder (CD) on a 4-point Likert-type scale (i.e., *Not at all, Just a little, Pretty much, or Very much*). For this study, the average scores for the DSM ADHD and ODD symptoms were used.

The DBD rating scale, like other commonly used parent rating scale measures of ADHD and ODD symptoms, has acceptable levels of reliability and validity (Pelham, Fabiano, & Massetti, 2005). The parent DBD rating scale has good internal consistency (coefficient alpha = .86-.92). It also correlates moderately with a structured diagnostic interview

($r = .38-.62$). Across a number of studies, the DBD has also shown sensitivity to behavioral treatment effects (Pelham et al., 2005).

Impairment Rating Scale (IRS). Father and mother ratings of problem severity and need for treatment in important functional domains were measured using the IRS (Fabiano et al., 2006). The parent IRS is a 7-item rating scale that asks parents to rate the severity of the child's problems and need for treatment and/or special services in important functional domains (i.e., relationship with peers, relationship with the parent[s], relationship with sibling[s], academic progress, family functioning, self-esteem, overall need). Parents place an "x" on a 7-point visual analogue scale to signify their child's functioning along a continuum of impairment that ranges from 0 (*Not a problem at all. Definitely does not need treatment or special services*) to 6 (*Extreme problem. Definitely needs treatment and special services*). The average IRS score across domains was used in the analyses.

The parent IRS evinces acceptable levels of reliability, validity, and has been shown to be sensitive to the effects of behavioral and pharmacological interventions for ADHD (Evans, Allen, Moore, & Strauss, 2005; Fabiano, 2005; Fabiano et al., 2006). Fabiano et al. (2006) reported test-retest reliability ranged from .60-.89 over a period of 6 months, and .54 to .76 over 1 year. Further, ratings on the IRS predict mental health or school services, and there is evidence of convergent and discriminant validity on the measure (Fabiano et al., 2006).

Swanson, Nolan, and Pelham (SNAP) Peer Factor. Parent ratings on the SNAP Peer items (Atkins, Pelham, & Licht, 1988; Pelham et al., 1989) were used as another index of peer relationships. These items were drawn from the rationally derived peer relationship items on the SNAP rating scale (Atkins et al., 1988). Items included behaviors characteristic of poor social skills and aggressive behavior exhibited in peer relationships (e.g., "Teases or calls other children names") and are scored on a 4-point Likert scale (i.e., *Not at all, Just a little, Pretty much, or Very much*). The average score on this factor was used in the analyses.

The SNAP peer factor demonstrates acceptable test-retest reliability ($r = .66$) and internal consistency (Miller, Fee, & Netterville, 2004). The factor also exhibits evidence of convergent and discriminant validity when compared to independent observations of peer-related behaviors (Atkins & Pelham, 1991; Atkins et al., 1988). There is limited information available on the psychometric characteristics of these items for parents, however. In the present sample, using father baseline ratings, the items exhibit acceptable internal consistency (coefficient alpha = .65).

Parent and child engagement in treatment. The number of sessions attended by the father and by the child, the number of sessions attended on-time, and the number of homework assignments completed were recorded, which have demonstrated sensitivity to differences in parent engagement (Cunningham et al., 1993; Prinz & Miller, 1994).

Domain-specific improvement. At posttreatment, fathers completed domain specific, impressions of improvement (Guy, 1976; Pelham et al., 2000). This measure asks parents to rate improvement in the past 8 weeks on a 7-point Likert-type scale (*Very much worse* to *Very much improved*; the midpoint indicates *No change*) in specific functional domains (e.g., “following home rules,” “good sportsmanship,” “completing daily routines”). Scores were averaged across domains to provide an overall index of improvement at posttreatment. Any items rated as “not a problem” for the child were not counted in the average—therefore, this measure rates improvement in areas that were problematic for the child before or during treatment. As a measure of generalization, mothers also completed the scale.

Ratings of improvement using the Clinician Global Impressions scale (CGI; Guy, 1976) have been used in numerous pharmacological and behavioral treatment studies. The global improvement rating has demonstrated interrater reliability (e.g., Tolin et al., 2007; $r=.81$), and clinician-rated improvement scores correlate with parent reports of improvement in individualized target behaviors (Arnold et al., 2003). The parent-completed, domain-specific improvement ratings used in the present study are sensitive to intensive treatment effects, and they relate to global ratings of improvement (Pelham et al., 2000).

Consumer satisfaction. The Therapy Attitude Inventory (TAI; Brestan, Jacobs, Rayfield, & Eyberg, 1999) is an index of consumer satisfaction for participants in parent training. Items are rated on a scale of 1 (indicating treatment dissatisfaction or lack of improvement) to 5 (indicating satisfaction with treatment and improvement). Fathers completed this form after the last session of their respective parenting program.

Brestan et al. (1999) reported on the psychometric properties of the TAI. Factor analysis of the scale indicated it has two factors: satisfaction with treatment outcome and satisfaction with treatment process. The satisfaction with treatment outcome factor has excellent internal consistency (coefficient $\alpha=.93$) and temporal stability ($r=.85$). The satisfaction with treatment process factor has acceptable internal consistency (coefficient $\alpha=.76$) and temporal stability ($r=.52$). The

satisfaction with treatment outcome factor was shown to correlate with measures of child behavior ratings at posttreatment, and the satisfaction with treatment process factor correlated with observations of child behavior, suggesting concurrent validity.

Treatment integrity and fidelity. Potential therapist effects were addressed by counterbalancing the two therapists across treatment conditions. Each treatment session was audiotaped, and an independent observer coded the tapes for session content using standardized session checklists. The content of the parent training sessions was manualized to facilitate treatment adherence, and the soccer game component of the COACHES program was also manualized (Fabiano et al., 2001). At posttreatment, fathers were asked to rate the quality of the therapist and treatment to determine any potential therapist effects that may have affected the integrity or fidelity of the interventions. In addition, supervision was provided throughout the project by the third author, a clinical psychologist with over 30 years experience working with families of children with ADHD.

Results

OVERVIEW

Analyses were conducted to address the primary study questions. The first study question aimed to compare the standard and COACHES programs for fathers on treatment outcome and process measures. A repeated measures multivariate analysis of variance (MANOVA) was used to compare father ratings in the COACHES program to father ratings in the standard program for measures of treatment outcome. The dependent variables entered into the analysis are listed in Table 3. Then, process variables (listed in Table 4) were analyzed using MANOVA to compare the COACHES and standard groups. Follow-up, descriptive analyses included calculation of effect size by subtracting the COACHES group mean from the standard group mean and dividing by the pooled standard deviation of the groups (Tables 3 and 4). For the primary outcomes related to father ratings, partial η^2 is reported in the text.

Overall, 10.7% of fathers did not have complete data due to omitted items or rating scales, incorrect completion of the rating scales, or because the fathers stopped participating in the study before these ratings were collected. For these analyses, an intent-to-treat approach was used, and missing data were imputed using data from the available observation (in all 75 cases complete data was collected at one observation point). These imputed data are viewed as conservative estimates, as they

Table 3

Means and standard deviations on dependent variables for father ratings in the standard and COACHES behavioral parent training groups

	Standard			COACHES			ES
	<i>n</i>	Pre-treatment	Post-treatment	<i>n</i>	Pre-treatment	Post-treatment	
DBD ADHD factor	37	1.84 (0.55)	1.55 (0.57)	38	1.77 (0.49)	1.54(0.54)	0.02
DBD ODD factor	37	1.38 (0.71)	1.17 (0.66)	38	1.32 (0.71)	1.11 (0.69)	0.09
SNAP Peer factor	37	1.19 (0.73)	0.99 (0.66)	38	1.14 (0.57)	0.96 (0.53)	0.05
IRS - Average	37	3.71 (1.22)	3.11 (1.35)	38	3.79 (1.28)	3.32 (1.36)	-0.15
Domain-Specific Improvement ratings	32	N/A	4.39 (0.55)	35	N/A	4.63 (0.41)*	0.49

Note. Standard deviations in parentheses. COACHES=Coaching Our Acting-out Children: Heightening Essential Skills program. ES=Effect size. DBD=Disruptive Behavior Disorders rating scale. ADHD=Attention-deficit/hyperactivity disorder. ODD=Oppositional Defiant Disorder. O/D=Oppositional Defiant. IRS=Impairment Rating Scale. Effect sizes were calculated by subtracting the post-treatment COACHES group mean from the post-treatment standard group mean and dividing by the pooled group standard deviation. Positive ESs indicate superiority of the COACHES program, and negative ESs favor the standard program.

* Significant effect, $p < .05$.

presume no change in functioning due to the intervention. One-hundred percent of data were available for the analysis of behavioral process-related variables (e.g., attendance). For consumer satisfaction measures, 10.7% of data were missing. The fathers who completed posttreatment measures were not significantly different from noncompleters on any of the baseline variables listed in Table 1 or in scores at baseline for any measures used as an indicator of primary outcome.

Finally, as an exploratory measure of the generalization of the intervention, mothers, who did not participate in any treatment-related activities, completed the same outcome measures as the fathers. Sixty-three families included a father and partner who had cohabitated for at least 6 months, 93% of partners in these families completed baseline ratings, and approximately 76% participated in posttreatment assessments. The same analytic approach used for the fathers' data was used for the mothers' data.

Table 4

Means and standard deviations for COACHES vs. standard parent training therapy process and consumer satisfaction measures

	Standard (<i>n</i> =37)		COACHES (<i>n</i> =38)		ES
	Mean	SD	Mean	SD	
Father attendance	65.3%	31.3%	77.4%*	24.5%	0.43
Child attendance	49.4%	32.0%	74.6%*	25.9%	0.87
Father attend on-time	32.1%	29.5%	45.8%*	30.5%	0.46
Father homework compliance	13.9%	16.9%	29.6%*	27.4%	0.69
TAI - TO	23.38	3.31	24.40	2.33	0.36
TAI-TP	15.34	2.15	16.29*	2.04	0.45
Benefited Child	2.72	0.88	3.11	0.72	0.49
Benefited Parent	3.28	0.84	3.49	0.74	0.27
Benefited Family	2.90	0.90	3.00	0.77	0.12
Father Enjoyed	3.03	0.98	3.74*	0.56	0.89
Would attend again	4.24	0.91	4.34	1.03	0.10
Would recommend to other fathers	4.66	0.48	4.89*	0.32	0.57

Note. SD=Standard deviation. BPT=Behavioral Parent Training. ES=Effect size. TAI-TO=Therapy Attitude Inventory-Therapy Outcome. TAI-TP=Therapy Attitude Inventory-Therapy Process. Effect sizes were calculated by subtracting the standard group mean from the COACHES mean and dividing by the pooled group standard deviation. Positive ESs indicate superiority of the COACHES program, and negative ESs favor the Standard program.

* Significant effect, $p < .05$.

TREATMENT INTEGRITY AND FIDELITY

To demonstrate the effectiveness of the manipulation, multiple procedures were used. First, to determine whether the two therapists had any significant impact on the fathers' experience in the parenting classes, a 2 (Therapist: Therapist 1, Therapist 2) x 2 (Group: COACHES, Standard) ANOVA was conducted using fathers' ratings of the therapist on a 5-point Likert-type scale as the dependent measure. This analysis yielded a main effect of therapist ($p < .05$) but no main effect of group or therapist by group interaction. An inspection of the means indicated Therapist 1 (G.A.F.) averaged a rating of 4.71 ($SD = 0.46$) and Therapist 2 (A.C.) averaged 4.91 ($SD = 0.29$). All ratings for both therapists were either "good" or "very good," meaning the fathers unanimously rated the therapists as being proficient. Furthermore, because therapists were counterbalanced across groups for each of six cohorts, with each leading the two formats three times, any therapist effects are distributed equally across both parent training groups. Treatment integrity was also measured by an independent coder, blind to study hypotheses, reviewing 20% of parenting session audiotapes and completing a checklist of required components of the class (e.g., homework review). Checklists

indicated that 100% of the required classroom components were covered in each class.

COACHES VS. STANDARD PARENT TRAINING

Father ratings. The primary specific aim of this study was to investigate whether the COACHES program offered advantages over the standard BPT program on ratings of child behavior and functioning. The COACHES and standard BPT groups did not differ significantly on any pretreatment baseline characteristics. The primary outcome measures were analyzed using a 2 (Time: Pretreatment, Posttreatment) \times 2 (Treatment: COACHES, Standard) repeated measures MANOVA. Results yielded a significant main effect of time, $F(4, 70) = 10.21$, $p < .001$ (partial $\eta^2 = 0.37$). The main effect of group and the group by time interaction were not significant ($p > .05$). All univariate effects for the time factor were significant $p < .01$, and an inspection of means indicated improvement at posttreatment. Means and standard deviations for dependent variables are listed in Table 3.

As another measure of treatment outcome, each father was asked to rate the child's change in functioning at posttreatment on a measure of domain-specific improvement. Because the measure of domain-specific improvement was collected only at posttreatment, these data were analyzed using ANOVA procedures with type of parent training program as the grouping variable. Children who participated in the COACHES program were rated as more improved across functional domains than children in the Standard program, $F(1, 65) = 4.34$, $p < .05$. Means and standard deviations for this measure are reported in Table 3.

Therapy process measures. Therapy process measures (i.e., number of sessions attended by the father and child, number of sessions attended on time, and homework compliance) were analyzed with MANOVA, using treatment group as the between-subjects factor (Group: COACHES, Standard). The a priori hypothesis was that the COACHES program would be superior to the standard program on these measures, so one-tailed significance tests were used for univariate effects. The omnibus test yielded a significant effect for group, $F(4, 70) = 5.59$, $p < .001$. Univariate effects were significant for father attendance ($p < .04$), child attendance ($p < .001$), sessions attended on time ($p < .03$), and homework compliance ($p < .003$), with the direction of means indicating improved outcomes in the COACHES group. Means and standard deviations are listed in Table 4.

As a further measure of therapy process, father and child dropout was investigated. Only one

father and child in the standard and COACHES groups, respectively, attended zero sessions. Two additional fathers in the standard program attended sessions but did not bring their child to any sessions. Thus, there was minimal dropout before the treatment commenced, and the majority of fathers and children were exposed to at least one treatment session. Once treatment began, the number of fathers who attended 75% or more of the sessions (e.g., six or more sessions) was analyzed to determine the percent of parents in each treatment group who attended the majority of the sessions. The percent of parents who completed 75% of the COACHES program sessions was 76%, compared to 57% of the standard participants. The percentage of children who attended 75% of sessions was 76% for the COACHES program and 32% for the standard program. Results indicated a significant (one-tailed) effect for parent completion $\chi^2(2) = 3.23$, $p < .05$ and child completion $\chi^2(2) = 14.57$, $p < .001$.

Consumer satisfaction. Consumer satisfaction was measured using the TAI and posttreatment ratings of satisfaction with treatment. The TAI for the COACHES and standard parent training program was analyzed using an independent samples *t*-test for the "satisfaction with outcome" and "satisfaction with treatment progress" factors. A one-tailed significance test was used for this analysis. This resulted in a trend for the Satisfaction with Outcome variable, $t(65) = 1.48$, $p < .08$, and a significant effect on the Satisfaction with Process factor, $t(65) = 1.84$, $p < .04$, with the direction of means favoring the COACHES group. Means and standard deviations for these dependent variables are presented in Table 4.

In addition, fathers were asked at the end of treatment about their opinion of the intervention. These questions were analyzed using a MANOVA (one-tailed significance test) with parent training group as the grouping variable. Results yielded a main effect of group $F(6, 57) = 2.99$, $p < .02$. Univariate tests were significant for the items asking how much the father enjoyed the program, $F = 13.11$, $p < .001$, and whether the father would recommend the program to another father, $F = 5.18$, $p < .03$. There was a trend for the item asking how much the child benefited from the program, $F = 3.81$, $p < .06$. The direction of all means favored the COACHES program. Means and standard deviations are listed in Table 4.

Mother report of child outcomes. As an indicator of generalizability, the effects of the father BPT program on mother ratings were analyzed using a 2 (Time: Pretreatment, Posttreatment) \times 2

Table 5

Means and standard deviations on dependent variables for mother ratings in the standard and COACHES behavioral parent training groups

	<i>n</i>	Standard		<i>n</i>	COACHES		ES
		Pre-treatment	Post-treatment		Pre-treatment	Post-treatment	
DBD ADHD factor	27	1.93 (0.49)	1.73 (0.52)	30	1.90 (0.73)	1.75 (0.77)	-0.03
DBD ODD factor	27	1.32 (0.63)	1.27 (0.72)	30	1.48 (0.64)	1.26 (0.71)	0.01
SNAP Peer factor	27	1.09 (0.66)	1.03 (0.71)	30	1.24 (0.60)	1.13 (0.61)	-0.15
IRS - Average	27	3.88 (1.24)	3.66 (1.37)	30	4.02 (1.31)	3.91 (1.51)	-0.17
Domain-Specific Improvement ratings	22	N/A	4.39 (0.38)	26	N/A	4.48 (0.42)	0.22

Notes. Standard deviations in parentheses. COACHES=Coaching Our Acting-out Children: Heightening Essential Skills program. ES=Effect size. DBD=Disruptive Behavior Disorders rating scale. ADHD=Attention-deficit/hyperactivity disorder. ODD=Oppositional Defiant Disorder. IRS=Impairment Rating Scale. SNAP=Swanson, Nolan, & Pelham rating scale. Effect sizes were calculated by subtracting the standard group mean from the COACHES mean and dividing by the pooled group standard deviation. Positive ESs indicate superiority of the COACHES program, and negative ESs favor the standard program.

(Treatment: COACHES, Standard) repeated measures MANOVA. Results yielded a significant main effect of time, $F(4, 52)=2.69$, $p<.05$ (partial $\eta^2=.17$). The main effect of group and the Group \times Time interaction were not significant ($p>.05$). Univariate effects for the time factor were significant ($p<.01$), for the DBD ADHD rating, the DBD ODD rating, and the IRS average rating, and an inspection of means indicated improvement at posttreatment. The SNAP peer rating completed by mothers was not significant ($p>.05$). Means and standard deviations for mother-completed ratings are listed in Table 5. On measures of domain-specific improvement, ratings indicated improvement, but there was no significant difference across groups ($p>.05$).

Discussion

To the authors' knowledge, this study is the first to investigate the effectiveness of fathers-only BPT groups for children with ADHD. When the COACHES and standard program were compared, both programs resulted in improved child behavior per father report. Fathers in the COACHES program rated their child as more improved on domain-specific ratings, relative to fathers in the standard program. On treatment process measures, the COACHES program appeared to demonstrate advantages beyond the standard approach, including increased father and child attendance, reduced parent and child dropout, increased homework compliance, and greater consumer satisfaction. Each of these outcomes will be discussed in turn.

The primary study question investigated whether the COACHES program offered benefits over a standard program. Some discussion of the BPT intervention utilized in this investigation would be

appropriate before discussing the comparisons between the COACHES and the standard program. First, the standard BPT program was not necessarily "standard." The coping-modeling-problem-solving approach implemented in groups pioneered by Charles Cunningham (Cunningham et al., 1998) has been demonstrated to be superior to a didactic or individual BPT approach (e.g., Cunningham et al., 1993; 1995), resulting in improved attendance, homework compliance, and outcomes. This approach also allows for the discussion of broader themes that can affect parenting (e.g., co-parenting), an approach also known to reduce BPT dropout and improve outcomes (Prinz & Miller, 1994). Furthermore, both programs included child-based components, shown to be an important factor in retaining parents in treatment (Miller & Prinz, 2003).

Given these factors, the fact that some differences were found between the COACHES and standard program is promising. Although groups were reported to improve equally on measures of ADHD and ODD symptoms, peer-related behaviors, and ratings of impairment, the COACHES program resulted in greater father ratings of child improvement in specific functional domains, better parent and child attendance, less parent and child dropout, more sessions attended on time, better homework compliance, and greater consumer satisfaction with the treatment process compared to a standard intervention. The COACHES program differed from the standard approach in several important ways. The COACHES program permitted monitored, participatory, parent-child interactions, a procedure shown to benefit fathers in BPT (e.g., Schuhmann et al., 1998). The COACHES program also included a sports-based activity. The sports procedures used in the program have long been used to treat the

peer relationship problems central to ADHD (Pelham et al., 2005; Pelham et al., 1998; Pelham & Hoza, 1996). This program replicated and extended the procedures used in the summer treatment program (STP; Pelham et al., 2005; Pelham et al., 1998; Pelham & Hoza, 1996) by combining weekly parent training with child-based recreational activities. The STP program has traditionally had extremely low parent and child dropout (i.e., less than 5%; Pelham & Hoza, 1996) and high rates of consumer satisfaction (August et al., 2001; Pelham et al., 2005), which suggests it may be a promising adjunctive treatment for BPT (Chronis et al., 2004).

Interestingly, the results of the homework compliance measure demonstrated fathers in the COACHES program completed significantly more homework assignments than fathers in the standard program. However, an inspection of the means indicated the difference was an average of two assignments versus only one. Clearly, fathers in this study did not consistently complete the paper-and-pencil homework assignments that asked them to practice the parenting strategies at home during the week. However, all of fathers in attendance at each COACHES program practiced the techniques with their child during the soccer game portion of the session. Therefore, practice during the parenting session with the child may be a critical component of BPT programs for fathers.

The present study results must be interpreted in light of their limitations. A primary limitation of this study is the lack of objective measures of parent-related treatment outcome (e.g., observations in natural settings). The child behavior ratings completed for the study are really a proxy for the behaviors exhibited by the parent and child. The extent to which these ratings are valid measures of treatment outcome need to be supplemented by observations of parent and child behavior as well as parent-child interactions. Perhaps exacerbating this problem, little information is available on normative father behavior and father-child interactions (Phares & Compas, 1992). Future research needs to address these gaps in the literature and perhaps modify or create new measures of child behavior and parenting that accurately reflect father behaviors and family roles. Interestingly, although ratings of ADHD-related symptoms and impairment did not differentiate the groups, improvement ratings across functional domains did, suggesting fathers in the COACHES group noticed improved outcomes following the program. Additional studies that include objective measures are needed to follow-up on this possible positive outcome related to the COACHES program.

Additional limitations relate to the study design. For example, follow-up data were not collected in the present study. Future studies need to investigate the maintenance of treatment gains over time for fathers who participate in BPT (e.g., Bagner & Eyberg, 2003). The COACHES program also included father-child interactions, whereas the standard program did not. Thus, this study cannot address whether the specific sports-related activities in the COACHES program increased father engagement and satisfaction, or whether it was the inclusion of father-child interactions in the program that contributed to the observed effects (e.g., father-child interactions in the clinic appeared to benefit fathers in the Schuhmann et al., 1998, study). Further, the lack of a no-treatment or attention control group limits the conclusions that may be reached regarding the BPT outcome measures—it is impossible to interpret whether the improvement on the ratings at posttreatment was due to a treatment effect or the passage of time. Finally, the study procedures used in the present investigation require replication by research teams not affiliated with the treatment development.

FUTURE DIRECTIONS

This study has answered some questions related to fathers' participation in BPT, but it also leaves many questions unanswered. For example, given these preliminary outcomes that suggest integrating father-child interactions during a sports activity resulted in positive outcomes, the best way to include this approach in commonly employed treatment regimens for ADHD is an area in need of future study. Sports participation is the most common after-school activity for children aged 6 to 12 (U.S. Department of Education, 2001), and therefore, this venue may be a natural entry-point for engaging fathers in BPT-like programming as a universal intervention (e.g., Prinz & Sanders, 2007; Sanders, Markie-Dadds, & Turner, 2003) rather than a clinic-based, targeted intervention. There is also a long history of using recreational and sports settings as a place to work on the peer relationships of children with ADHD (e.g., Pelham & Bender, 1982; Pelham et al., 2005). The present results may suggest that sports settings may also be an effective setting for teaching parenting strategies. Importantly, this type of approach does not fit with a treatment model that includes working individually with a child in an office setting, or meeting with a parent individually. However, it is worth mentioning that the evidence-based treatments for children with ADHD typically do not conform to an office-based approach (Pelham & Fabiano, 2008), and our present results may suggest father attendance

would be worse in a more traditional format. Thus, these results may indicate a need to revisit current clinic-based approaches to working with fathers and their children with ADHD, and this remains an area that warrants further study.

An additional future direction of the COACHES program is to determine how to include mothers and fathers in treatment. The present study was conducted because fathers had been marginalized in BPT treatments in the ADHD literature (e.g., Fabiano, 2007). Unfortunately, because the present study question was to explicitly investigate the effectiveness of BPT for fathers, mothers were marginalized in this study. Future studies are needed to investigate the appropriate combination of mother and father engagement efforts, the best format to use for engaging mothers and/or fathers, and whether combined groups of mothers and fathers, parallel groups of mothers and fathers, or some combination result in the best treatment outcome. It is encouraging that the mother ratings suggested improved child behavioral outcomes, in spite of no direct participation in the intervention by mothers, but it is also important to highlight that the magnitude of effect was approximately half that of the treated fathers. Though the lack of a no treatment condition makes these exploratory outcomes difficult to interpret, the results appear to support further investigation of the effects of BPT on untreated collaterals.

Lastly, the dependent measures utilized in this study were largely created, normed, and validated in samples of mothers (Pelham et al., 2005). A neglected area of research remains the creation of valid measures of father functioning as well as valid measures that may be administered to fathers for rating their children with ADHD (e.g., Johnston & Mash, 1989). Clearly, there is some degree of cross-informant reliability between mother and father ratings of their child's behavior, at least on par with cross-informant reliability between a mother and teacher (e.g., Renk & Phares, 2004). However, reliability between raters does not presume the validity of the measure. The degree to which standard measures of child psychopathology possess content validity for the behaviors that concern fathers and emphasize the important targets of treatment outcome for fathers is an area in need of more study. Furthermore, father norms on these measures are needed to appropriately assess normalization of functioning due to treatment (e.g., Jacobson & Truax, 1991).

In summary, this study provides preliminary support for BPT as an effective intervention for fathers of children with ADHD. Both a standard format and the COACHES program resulted in

improved functioning in important child domains (e.g., peer interactions, ODD behaviors). The COACHES program appeared to provide benefits in father improvement ratings, parental and child engagement and attendance, and resulted in improved father satisfaction with treatment, though both the COACHES and standard program resulted in similar father-rated, child-based outcomes. These results do appear to support the inclusion of active father involvement in comprehensive treatments for ADHD. Future studies that include objective measures of parent and child outcome are needed to ascertain the appropriate approaches to working with fathers of children with ADHD.

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