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Effects of an 8-session Behavioral Parent Training Group for Parents of Children with ADHD on Child Impairment and Parenting Confidence

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Abstract

Objective—The present study examined the feasibility and effectiveness of a BPT group intervention implemented in an outpatient mental health setting in reducing child impairments and increasing parenting confidence in managing child behavior.

Method—Parents of 241 children with ADHD participated in the eight-session parent group program, completing the *Impairment Rating Scale* (IRS) and a measure of parenting confidence at the first and last session.

Results—Parents reported improvements in child behavior across all domains of the IRS, with the largest improvements in terms of overall impairment, parent-child relationship, and impact of child behavior on the family. Parents also reported increased confidence in managing their child's behavior.

Conclusion—These findings suggest that brief BPT group programs administered to a diverse range of attendees in a typical outpatient setting result in improvements in functional impairments comparable to those produced in controlled studies, as well as improved parenting confidence.

Keywords

ADHD; Behavioral Parent Training; community-based care; Impairment Rating Scale; parenting confidence

Attention Deficit Hyperactivity Disorder (ADHD) is a disorder characterized by a persistent pattern of developmentally inappropriate levels of inattention, hyperactivity, and impulsivity (American Psychiatric Association, 2000). As one might expect of children who are excessively hyperactive, distractible, and impulsive, children with ADHD exhibit difficulties in multiple areas of daily functioning including but not limited to the academic, social, family, and behavioral domains. Currently, the only well-established treatments for children with ADHD are medications and psychosocial approaches that focus on behavioral management (Chambless & Hollon, 1998), including behavioral parent training (BPT) and summer treatment programs (STP) (Pelham & Fabiano, 2008).

While medication is widely available through community pediatricians, psychiatrists, or other community health providers, availability of psychosocial treatments for ADHD is scarce in most communities (Olfson, 2010; Zima et al., 2010). In order for communities to

commit resources towards making psychosocial treatment available it must be evident that these treatments are feasible to implement on a large scale and produce significant improvements in child functioning and health. A variety of behavioral parent training (BPT) protocols for parents of children with ADHD and associated behavior problems (e.g., Oppositional Defiant Disorder) have been developed. These protocols have ranged from 10-session BPT group programs (Barkley, 1997) to the 35-session (27 group and 8 individual) BPT program implemented in the Multimodal Treatment of ADHD (MTA) study (MTA Cooperative Group, 1999). Numerous studies have demonstrated that BPT for parents of children with ADHD results in significant reductions in problematic child behaviors, increases in more desirable alternative behaviors, increases in child compliance with parental instructions and rules, and improved parent-child interactions (e.g., Pelham, Wheeler, & Chronis, 1998; Danforth, Harvey, Ulaszek, & KcKee, 2006; Pelham, Fabiano, & Massetti, 2005). Indeed, the significant improvement in the behaviors of children with ADHD resulting from their parents' participation in BPT is second only to the improvement seen in core ADHD symptoms as a result of medication management, with the MTA Study (MTA Cooperative Group, 1999) providing strong evidence that the best overall outcomes for many children result from a combined medication-BPT approach to managing ADHD. Specifically, a combined approach to treatment was found to be superior to other approaches in terms of improvements in oppositional and aggressive behaviors, parent-child relationships, teacher-rated social skills, internalizing symptoms, and reading achievement. Parent satisfaction was also greater among parents when BPT was part of the treatment program than when medication alone was used (MTA Cooperative Group, 1999). However, past research has focused on establishing the efficacy of BPT interventions in controlled clinical trials limiting the generalizability of such interventions and leaving questions regarding the effectiveness of BPT interventions as implemented in a community setting. In fact, the vast majority of BPT studies have been conducted in academic or medical center settings. These studies typically include treatment free of charge, incentives for treatment completion, monitoring, and close follow-up to encourage attendance and participation. Each of these factors has the potential to affect participation rates and fails to answer questions of effectiveness and feasibility in real-world clinical settings. Hence, the reported efficacy and rates of participation in these academic-based research studies may not represent what would be found in a naturalistic community setting.

The majority of studies investigating BPT have focused primarily on the reduction in the number or severity of ADHD and ODD symptoms. However, symptoms of ADHD do not predict long-term outcomes and are not usually the reason for referral for treatment (Pelham, Fabiano, & Massetti, 2005; Manuzza & Klein, 1999; Angold, Costello, Farmer, Burns, & Erkanli, 1999). Although a few studies have examined additional variables such as maternal depression, parenting stress, and impairments in academic and social functioning, only three studies have examined parents' ratings of child impairment across multiple domains of functioning (the most common cause for referral). In addition, while several studies have looked at the impact of BPT on improvements in parenting behaviors and parent satisfaction with treatment (e.g., Wells et al., 2006; Gerdes, Haack, & Schneider, 2012), no research has examined changes in parenting confidence in their ability to manage their child's behavior as a result of BPT.

As noted, only three studies to date have examined the impact of BPT on parental ratings of their child's functional impairment, all using scores on the *Impairment Rating Scale* (IRS) (Fabiano et al., 2006). The IRS asks parents to rate their child's functioning across six areas of functioning, as well as an overall rating of their child's impairment. A pilot study (n=12) by Chacko and associates (2008), which used only the overall impairment item from the IRS, failed to find any significant improvement in maternal reports of child functional impairment ($p = .34$, effect size 0.24), despite finding significant reductions in ADHD and ODD symptoms and reduced parenting stress and depressive symptoms. However, a much larger (n=120) second study by Chacko and associates (2009), which used the overall impairment item on the IRS as well as the peer relationship, parent relationship, and impact of the child's behavior on the family items, reported significant improvements ($p < .01$) on the parent relationship, impact of child behavior on the family, and overall impairment in both of their treatment conditions, the Strategies to Enhance Positive Parenting (STEPP) program versus a traditional BPT program. Finally, a study by Fabiano and associates (2009), which used an average IRS score across the six specific domains in their statistical analyses, found improvements in ratings provided by both fathers and mothers in both their treatment conditions, the Coaching Our Acting-Out Children: Heightening Essential Skills (COACHES) group for fathers versus a traditional BPT group. Thus, studies suggest BPT can improve child impairment, at least when implemented in an academic-based research setting.

To our knowledge, only one study has attempted to evaluate the impact of BPT delivered as a clinical service outside of the context of a research study. van den Hoofdakker and associates (2007) evaluated the impact of BPT versus routine community care (RCC) for 47 children diagnosed with ADHD. The authors minimized use of exclusionary criteria and allowed parents of children both on and off medication to participate. Their results indicated that BPT was superior to RCC for improving overall behavior problems and externalizing symptoms, although there was no significant reduction in ADHD symptoms specifically, which the authors hypothesized as reflecting the focus of the BPT groups on reducing problematic behaviors rather than DSM-specific ADHD symptoms. These authors also found no added value of BPT in reducing parenting stress above that seen in the RCC group. However, their study was limited by a small sample size, the use of some exclusionary criteria that may limit the generalizability of their findings to many clinic settings (e.g., excluding $IQ < 80$, requiring both parents to attend sessions), a small proportion of minorities (5%), and a failure to examine functional outcomes. Thus, there is clearly a need for further effectiveness research which examines the efficacy of BPT using a broader spectrum of more “typical” attendees, and which emphasizes a reduction in child-related functional impairments using a larger community sample.

The purpose of our study was to evaluate the effectiveness of an eight session BPT group program as implemented in an outpatient mental health setting. Given limitations of past research in relation to emphases on symptom-reduction, the goals of the present study were to examine the feasibility and effectiveness of a BPT group intervention on reducing child-related impairment and increasing parent-reported confidence in their ability to manage their child's behavior at the end of the program. Further, following guidelines regarding

effectiveness trials, the present study provided no compensation for participation and utilized multiple therapists.

METHOD

Setting

During the three year period covered by this study, 12 licensed Clinical Psychologists from BLINDED FOR REVIEW administered 37 groups at five different suburban locations, as well as at two campuses (including the main hospital campus) in urban BLINDED FOR REVIEW. The clinical experience of the clinicians involved in this study ranged from 4 to 30 years of practice.

Participants

Groups consisted of parents from families in which there was a child with ADHD, with a mean of 6.75 families (range 4 to 11) represented per group. Overall, parents of 241 children participated in the group program over the three year period. The age range of the children with ADHD whose parents participated in the groups was 6 to 12 years of age ($M=8.6$, $SD = 1.74$, Range = 6 – 12 years). 75.6% of the children were male. Participants presented to outpatient services for treatment and were not recruited as a part of a research protocol. However, the use of participant data was approved by the BLINDED FOR REVIEW Institutional Review Board under an exemption for quality improvement projects. Parents had children with a diverse range of child and adolescent mental health and medically-related problems. Criteria for parent participation in the groups examined in this study were: 1) identified child was 6 to 12 years of age at the start of treatment; 2) child met *DSM-IV* (APA, 1994) criteria for a diagnosis of ADHD based on a clinical interview; 3) ADHD was a primary diagnosis; and 4) difficulties associated with ADHD and/or secondary oppositional defiant symptoms were the primary focus of concern for the parents seeking services. All children received a primary diagnosis of ADHD. The majority of children received a diagnosis of ADHD, Combined Type (ADHD-C, 83.0%). A smaller percentage received a diagnosis of ADHD, Predominantly Inattentive Type (ADHD-I, 16.2%) and ADHD, Predominantly Hyperactive-Impulsive Type (ADHD-HI, .8%). 27.6% of participants were reported (based on parent interview) to have one or more diagnoses in addition to their primary diagnosis of ADHD, with 13.2% of participants having a comorbid diagnosis of Oppositional Defiant Disorder (ODD) or Conduct Disorder (CD). Although we did not formally track the race/ethnicity of participants, therapists conducting the groups describe the majority of participants as having been Caucasian. 14% of participants received Medicaid. Data concerning the medication status of children were not collected.

Intervention

The ADHD group treatment program used in this study is an eight-session manualized BPT program, based on the ten-session program originally developed by Barkley (1997) and the 35 session program used in the MTA study (Wells, et al, 2000). It specifically focuses on issues related to children with ADHD. The first session focuses on an in-depth discussion of current information about ADHD and implications of our current understanding of ADHD on the effective management of the challenging behaviors often associated with it. The next

six sessions focus on specific behavioral strategies to address parent-child interaction, child compliance, promoting positive behaviors using various contingency management systems, use of time-out and other strategies to reduce problematic behaviors, and managing child behavior in public. A single session addresses issues related to school, focusing primarily on how to establish a daily home-school behavior report card system as well as structuring homework for success. The final session focuses on maintenance issues.

Sessions 2 through 7 follow a similar format. At the end of each session, parents receive homework in the form of specific strategies to practice using with their child at home. At the beginning of each subsequent session, parents report on progress implementing the strategies and the therapist helps them problem-solve any difficulties experienced. The second part of each session is spent introducing the new topic(s) and outlining the homework to be completed by the next session. Both parent and therapist versions of the group manual are used, which helps to ensure that similar information is taught across groups and clinicians. Although the specific behavioral strategy was consistently addressed at the appropriate session, clinicians were free to adapt the content to meet the needs of the families they are working with in a particular group. For example, clinicians were free to extend the problem-solving portion of sessions when necessary. Formal clinician fidelity data were not collected. Unlike the studies reviewed above, our parent groups often included both mothers and fathers, although this was not required for families to participate. Unfortunately, specific data concerning the number of families in which one or two parents attended the group program are not available.

Measures

Impairment Rating Scale (IRS)—The IRS was developed to assess the areas of functioning that typically characterize children with ADHD (Fabiano et al., 2006). The adapted parent version of the IRS used in this study consists of seven items, six of which reflect rationally derived areas of functioning known to be negatively impacted by ADHD (peer relations, sibling relations, parent-child relations, academic progress, self-esteem, and impact of the child's behavior on the family) as well as an overall severity/impairment rating. These seven items are rated by the parent on a 0 (signifying no impairment) to 6 (signifying extreme impairment) scale. In our analyses, we computed an IRS total impairment score which is the sum of the parent's ratings on the first six items of the IRS. Scores of three or higher on any item of the IRS are considered to reflect significant impairment (Fabiano et al, 2006). The psychometric properties of the IRS have been measured in four separate samples, both clinic and community samples (Fabiano et al, 2006). The IRS demonstrates excellent temporal stability and evidence of convergent and discriminant validity. Further, the IRS is highly effective in discriminating between children with and without ADHD (Fabiano, et al, 2006) and is sensitive to treatment effects (Evans, Langberg, Raggi, Allen, & Buvinger, 2005; Evans, Serpell, Schultz, & Pastor, 2007). Clinicians who provided the ADHD parent groups were instructed to have parents complete the IRS during the first and final group BPT sessions

Parent Confidence in Managing ADHD Behavior—All parents completed an item assessing parent's perceived confidence in their ability to manage their child's problematic

behaviors. This was a ten-point scale in which parents were asked “Please rate your confidence in your ability to manage your child’s problematic behaviors on the following scale:” followed by the numbers 1 through 10 with the following anchors: 1 = unable to manage problematic behaviors, 5 = able to manage about 50% of the time, and 10 = few or no problems managing problematic behaviors. This rating was provided at the first and final group BPT session. No information is available on the psychometric properties of this scale.

Adherence—A measure of treatment adherence also was included in the analyses. Adherence was operationalized as the number of sessions attended out of 8.

Statistical Analysis

Data from all participants were used in our analysis. Repeated measures analyses of variance using SPSS mixed model procedures were conducted examining main effects for time for each item on the IRS, the IRS total composite score, as well as parent-rated confidence in managing behavior. To evaluate the magnitude of changes over time, effect sizes were calculated by utilizing the estimated mean and corresponding standard errors in the mixed effect models.

To examine for possible moderating effects of treatment related to age, gender, clinician, insurance, ADHD subtype, presence of ODD or CD, presence of any comorbid diagnosis (including ODD or CD), and number of children in group, we examined the bivariate correlations between each of these possible treatment moderators assessed at baseline and change in our treatment outcomes. Only moderating variables with a correlation that trended toward statistical significance ($p < .10$) were entered into separate mixed model with time and the moderator variable by time interaction.

To examine possible predictors of adherence, bivariate correlations between number of sessions attended and age, ADHD subtype, initial rating of overall severity on IRS, IRS total score, gender, clinician, insurance, presence of ODD or CD, presence of any comorbid diagnosis, and number of children in group were examined. Variables with correlations that trended toward significant ($p < .10$) were entered simultaneously into a multivariate regression model predicting number of sessions attended.

RESULTS

Because 32% of our sample did not complete post-ratings, we examined group differences for children with complete data ($n=165$) compared to those with missing data ($n=76$) (Table 1). No significant differences were found in regards to age ($F_{1,240}=1.99, p>.05$), gender ($\chi^2_{1,240} = .596, p>.05$), percent on Medicaid ($\chi^2_{1,248} = .2431, p>.05$), presence of any other diagnoses in addition to ADHD (comorbidities) ($\chi^2_{1,240} = .1499, p>.05$), or presence of a co-morbid diagnosis of ODD/CD ($\chi^2_{1,240} = .998, p>.05$). As would be expected, groups did differ on number of sessions attended ($F_{1,240} = 212.19, p<.001$) with parents from whom we had complete data attending an average of 7.43 sessions ($SD = .79$) versus the parents from whom we had incomplete data attending an average of 4.74 ($SD = 2.07$) sessions.

Results of mixed models with each item on the IRS and Parent Confidence Ratings are presented in Table 2. Parents rated their children as making significant improvement across all domains on the IRS, as reflected by small to moderate effect sizes across items. Parents rated the largest effects in the areas of overall severity/impairment, parent-child relationship, and impact of the child's behavior on the family; smaller effects were found for items related to peer relationships, sibling relationships, and child's self-esteem. On average, 3 of the 7 IRS items were rated in the significantly impaired range (i.e., average scores were ≥ 3) at pre-treatment, whereas by post-treatment all 7 IRS items were rated within the non-impaired (i.e., scores ≤ 3) range. Parents also reported significantly increased confidence in managing their child's behavior.

Significant bivariate correlations were found between insurance and change in total IRS score as well as change in parent-rated confidence thus meeting significance criteria for inclusion in mixed models. No other predictor variables were significantly related to the dependent variables (Table 3). Mixed model analyses (Time, Insurance, Time $\times$ Insurance) indicated that parents of children with private insurance had greater change in total IRS score over time than parents of children with Medicaid. Similarly, parents of children with private insurance also had greater change in confidence related to managing their child's behavior than parents of children receiving Medicaid (Table 3).

Bivariate correlation analyses examining the relation between adherence and predictor variables found the initial confidence in managing child's behavior, clinician, insurance/Medicaid, and subtype of ADHD met our $p < .1$ threshold for inclusion in subsequent regression analyses. Results of the multivariate regression model are presented in Table 4. Initial parent-rated confidence and clinician each were significantly predictive of the number of sessions attended. Initial rating of overall severity, IRS total score, size of group, location of group, child's gender, child's age, presence of any comorbid diagnoses, presence of comorbid ODD or CD diagnosis, and type of insurance were each not predictive of attendance.

DISCUSSION

This study replicates previous research showing that brief BPT group programs significantly improve the functional impairment of children with ADHD. Importantly, the magnitude of improvements in child impairment produced in this community-based study are comparable to those produced in controlled research studies which also used the IRS (Chacko et al., 2008; Chacko et al., 2009; Fabiano et al., 2009). The current study found a much larger effect of parent training on reducing overall severity of problems as rated on the IRS than was seen in Chacko et al (2008) (effect size 1.02 versus .24), which was based on a pilot open trial with 12 single mothers with high rates of attendance. When comparing improvements on specific IRS items from the present study to those reported by the larger Chacko et al. (2009) study which randomly assigned 120 single mothers to a waitlist control group, a traditional BPT program, or the enhanced BPT STEPP program, our results indicate greater improvements when compared to their combined treatment groups in terms of peer relationships (effect size .52 versus .31), relationship with parents (.74 versus .45), effects of the child's behavior on the family (effect size .75 versus .59), and overall severity of the

child's problems (effect size 1.02 versus .68). One possible contributor to the differences seen between the present study and these studies by Chacko and associates is the fact that their studies were looking at improving the response of single parent mothers, whereas our study included parents from a broader range of socioeconomic backgrounds. Given previous research has found that that single-mother families are less likely to complete BPT (Kazdin, Holland, & Crowley, 1997) and to display lower rates of improvement following BPT (e.g., Dumas & Wahler, 1983; Lundahl, Risser, & Lovejoy, 2006), the larger effect sizes found in the present study are less surprising.

Of note, at post all IRS items were reported by parents in the current study at levels that on average were below the threshold rating (i.e., a rating of 3). Reducing functional impairments across multiple areas of daily functioning is the ultimate goal of all treatments for children with ADHD. The fact that our 8-session program appears to have contributed to such an outcome for our families is noteworthy given the relative brevity of our group compared to others in the literature.

The ecological validity of our findings is strengthened by the fact that the program was provided by a number of different therapists with differing backgrounds and styles, to groups of parents from across a broad range of backgrounds. While clinician seemed to be a predictor of the number of sessions attended (due to high attendance rates for one clinician), clinician was not significantly correlated with changes in total IRS scores, IRS severity scores, or changes in parent confidence at the end of treatment. This suggests no practical impact of clinician on ultimate outcomes for families participating in the program. The clinicians in the current study were all doctoral-level licensed psychologists who specialize in the treatment of children and adolescents. However, the BPT protocol used in the current study can easily be implemented by psychologists and other mental health professionals who are familiar with ADHD and behavior management principles. We found no significant differences in outcomes across the different locations (urban versus suburban) where our program was offered. Furthermore, the rates of improvement on the IRS reported by parents in the present study were not moderated by child gender, age, or presence of co-morbidities (including ODD/CD), suggesting that BPT programs have broad applicability to typical clinic samples of children with ADHD. Overall, our findings provide encouraging evidence supporting the need for widespread dissemination of BPT programs so that more parents of children with ADHD can have access to combined evidence-based treatment (i.e. medication and psychosocial interventions).

The fact that the biggest effects of our program were seen in terms of improved parent-child interactions, reduced negative impact on the family, reduced overall impairments in functioning, and improvements in parents' self-report of their confidence in managing their child's behavior makes sense given that these are the domains of functioning most directly targeted by the group program. As only one of the eight sessions (session 7) is spent directly addressing school-related issues, it is not surprising that parents did not report significant improvements in that particular area. Likewise, there was no formal focus on addressing problems with peers or siblings, nor is child self-esteem a primary focus of the program; thus we did not see an impact on self-esteem as rated on the IRS.

It is interesting to note that parents whose participation in the group was covered by Medicaid reported significantly less improvement in their parenting confidence than did parents of children with insurance. In fact, parents of children receiving Medicaid reported minimal change in confidence (effect size=.10). By comparison, parents of children with insurance had a very large effect (effect size=1.14) in change in reported confidence in managing their child's behavior. Children receiving Medicaid were rated as significantly more impaired at both time points in relation to children receiving private insurance. These findings are consistent with a meta-analysis of parent training studies by Lundahl, Risser, and Lovejoy (2006) who found that parents from disadvantaged families benefit less from group parent training programs both in terms of child outcomes as well as parental perceptions of parenting (including parent-related stress and confidence in parenting) than parents from non-disadvantaged families. While it is often assumed that the social support provided by group-based treatments is beneficial for all parents, Lundahl et al (2006) speculate that the benefits of social support for disadvantaged families is outweighed by the increased flexibility offered by individually-administered treatment in terms of addressing the unique needs of these families. The majority of children receiving Medicaid live with single mothers, and prior research has shown that single mothers report lower levels of improvement in child behavior as a result of BPT (e.g., Dumas & Wahler, 1983; Lundahl, Risser, & Lovejoy, 2006). Other factors that could potentially contribute to economically disadvantaged parents reporting less improvement in their child's behavior include: disadvantaged parents may have less time to practice skills taught in group due to competing work and/or family demands; other life stressors negatively impacting the child's behavior; and/or differing parental attitudes and beliefs about the impact of parenting on child behavior. Many of the variables potentially impacting parent use of and child response to the strategies taught in BPT are beyond the scope of any time-limited program to impact. However, future efforts to disseminate BPT programs to economically disadvantaged families may include a session specifically designed to address potential barriers to treatment (e.g., brainstorming potential barriers and possible solutions, as well as providing strategies for managing parents' own stress).

While 31.5% of the families in our sample started but did not complete the program, this is well within the range of 40% to 60% of families who terminate general child outpatient psychotherapy prematurely (Kazdin, 1996). Aside from the expected significant difference in number of sessions attended by completers (7.32) versus non-completers (4.77), there were no other significant differences between these groups. Overall adherence to treatment in our study for those completing BPT was above average, with the average parent attending 7.43 of the 8 scheduled sessions.

There are several limitations to the current study. A comparison waitlist or placebo treatment control group to detect possible effects of subject bias, spontaneous improvements simply due to the passage of time, or the nonspecific effects of treatment in general was not utilized. However, given the large body of studies that have demonstrated the efficacy of BPT for children in general, as well as for those with ADHD, it is reasonable to assume that the findings from this study are indeed related to the treatment program used. The fact that parents knew that they were receiving an empirically-based intervention could also be

considered a limitation of this study, in that one could argue such knowledge may have biased their reports of improvements in their child at the end of treatment given a belief that the treatment “should” work. Our dependence on parental ratings of changes in child functional impairments in the absence of an objective measure of changes could also be viewed as a limitation. Another limitation is the naturalistic medication status of children in the present study, with no consistent tracking of medication use or changes in medication status over the course of the group program, making examination of the possible moderating effects of medications impossible.

A critical issue that warrants further study is the durability of the positive impacts on child functioning documented in the current study. While the BPT group program used in the present study produced significant positive changes in child functioning in several domains, and parents reported significantly increased confidence in their ability to manage their child's behavior, we do not have data as to whether these improvements were maintained once families completed the program. Given the MTA study reported that a majority of families stopped using behavioral management strategies within months of ending the active treatment phase (which lasted 14 months in that study), there is reason to be concerned that families in our groups may be at risk for regressing to prior behavioral patterns once the eight-week group program ends. While Lundahl et al. (2006) report that small but meaningful benefits have been shown in studies looking up to a year after completion of BPT, future research is needed to examine whether there is a need for booster sessions to maintain improvements in functional impairments and parent confidence documented in this study over time.

Regardless, our findings suggest that BPT is feasible to administer in an outpatient mental health setting with a diverse range of attendees. Furthermore, we demonstrated the efficacy of BPT in reducing child impairment and improving parent confidence in managing their child. These improvements are clinically meaningful in that IRS ratings were rated in the normative range at the post-treatment evaluation.

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Table 1

Demographic Comparisons between Participants with Complete Data and Participants with Incomplete Data

	Complete Data Mean (SD) (n=165)	Incomplete Data Mean (SD) (n=76)	<i>F</i> / χ^2	<i>p</i>
Age	8.57 (1.71)	8.92 (1.81)	1.99	.16
Sessions Attended	7.43 (.79)	4.74 (2.07)	212.19	<.001
% with any Comorbid Diagnosis	28.4%	22.3%	.998	.20
% with comorbid diagnosis of ODD/CD	13.3%	7.9%	1.499	.16
Insurance (% with Medicaid)	12.1%	19.7%	2.431	.09
Gender (% Male)	76.9%	72.4%	.596	.27

Note: ODD = Oppositional Defiant Disorder, CD = Conduct Disorder

Table 2

Mixed Effect Models Examining Change in Pre and Post Ratings for each IRS item

	<u>Pre Mean (SD)</u>	<u>Post Mean (SD)</u>	<u>df</u>	<u>F</u>	<u>ES</u>
IRS 1: Relationships with peers	2.32 (.12)	1.64 (.13)	341	27.035***	.52
IRS 2: Relationships with siblings	2.79 (.12)	2.20 (.13)	298	22.635***	.49
IRS 3: Relationship with parent	2.78 (.11)	1.86 (.12)	343	73.043***	.74
IRS 4: Academic progress	2.75 (.13)	2.16 (.13)	341	19.579***	.43
IRS 5: Family in general	3.42 (.10)	2.59 (.11)	331	42.707***	.75
IRS 6: Self-esteem	3.19 (.12)	2.44 (.12)	315	32.911***	.60
IRS 7: Overall severity	3.63 (.09)	2.64 (.09)	326	84.622***	1.02
Parental Confidence	5.22 (.149)	7.11 (.16)	341	91.272***	.52

Note: ES = Effect size;

*
= p .05;**
= p .01;***
= p .001

Table 3

Bivariate Correlation Analyses and corresponding Mixed Model analyses for Independent Variables with correlations $p < .10$

Moderators	Change in Total IRS			Change in IRS Severity			Change in Confidence		
	<i>r</i>	<i>p</i>	<i>F</i>	<i>r</i>	<i>p</i>	<i>F</i>	<i>r</i>	<i>p</i>	<i>F</i>
Age	-.004	.96	-	-.047	.55	-	.134	.11	-
Gender	.044	.58	-	-.003	.97	-	.082	.32	-
Insurance	.138	.08	4.172*	.092	.24	-	-.235	.004	10.958***
Clinician	-.064	.42	-	-.104	.18	-	.095	.25	-
ADHD subtype	.063	.42	-	-.077	.33	-	-.056	.50	-
Comorbid ODD/CD Diagnosis	-.029	.71	-	.052	.51	-	-.032	.70	-
Any Comorbid Diagnosis	.001	.99	-	.075	.34	-	.010	.90	-
Number of participants in group	-.007	.93	-	-.033	.67	-	.086	.30	-

Note:

ODD = Oppositional Defiant Disorder, CD = Conduct Disorder

*
 $p < .05$,

 $p < .001$;

Table 4

Bivariate Correlation and Corresponding Multivariate Linear Regression Models Predicting Number of Sessions Attended

	<i>r</i>	<i>p</i>	β
Initial rating of Overall Impairment	-.096	.20	-
Initial Total IRS Score	-.053	.48	-
Initial Confidence in Managing Child's Behavior	-.175	.02*	-.124*
Age	-.042	.51	-
Clinician	.133	.04*	.097**
Gender	-.099	.13	-
Insurance	.118	.07	.467
ADHD Subtype	.110	.09	.202
Comorbid ODD/CD Diagnosis	.097	.13	-
Any Comorbid Diagnosis	.015	.82	-
Number of participants in group	-.080	.21	-

Note:

ODD = Oppositional Defiant Disorder, CD = Conduct Disorder; IRS = Impairment Rating Scale

* = p .05;

** = p .01;

*** = p .001;