The Self-Administered Incredible Years Parent Training Program: Perceived Effectiveness, Acceptability, and Integrity With Children Exhibiting Symptoms of Attention-Deficit/Hyperactivity Disorder

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ABSTRACT: This study examined the perceived effectiveness, acceptability, and integrity of the self-administered format of the Incredible Years Parent Training Program, for children exhibiting behaviors associated with attention-deficit/hyperactivity disorder. To assess perceived effectiveness, an AB pretest-posttest design was used across 10 weeks. Improvements in parents’ ratings of adaptive skills were replicated across five participants. Perceptions of change in core symptoms and other peripheral symptoms were less consistent, yet the findings are promising. Parents’ treatment acceptability ratings were favorable. Treatment integrity was high, with the exception of the completion of the workbook forms. Transporting this cost-effective evidence-based intervention to school-based mental health service delivery systems warrants additional consideration.

THE PROBLEM

Community and school professionals frequently encounter children and families who are affected by attention deficit/hyperactivity disorder (ADHD), which affects 3% to 7% of the school-age

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population (American Psychiatric Association, 2000). ADHD and
related externalizing behavior account for a significant source of referrals to school professionals (DuPaul & Stoner, 2003). Children with
ADHD often have considerable difficulty in school owing to core de-
cificits in attention, hyperactivity, and impulsivity, as well as peripheral difficulties in areas such as social skills and academics. In fact, 84% of
parents of children with ADHD report that this disorder had affected
their children’s academic or behavioral outcomes in school (LeFever,
Villers, Morrow, & Vaughn, 2002). A number of school difficulties
are associated with ADHD, including underachievement, higher-
than-expected placement in special education, and increased rates of
dropout, suspension, and expulsion (DuPaul & Stoner, 2003; Smith,
Barkley, & Shapiro, 2006).

DuPaul and Eckert (1997) suggest that despite the significant pres-
ence and detrimental impact that ADHD may have in schools, school-
based treatment for ADHD is relatively understudied in comparison
to other treatments. In addition, several empirically supported treat-
ments for ADHD have not been administered in the school setting.
One important example is that of behavioral parent training, which
has accumulated a considerable amount of support for its use. Many
school-based professionals may not have adequate resources or train-
ing to administer this treatment. In addition, as Pelham and Fabiano
(2008) report, parent training is not frequently offered in community
or primary care settings. Based on the research base for behavioral par-
et training, it is clear that children and families could benefit from
its implementation, yet its dissemination into natural settings is slow.
Schools provide an excellent setting for the implementation of inter-
ventions, given that they are the only mental health service provider
for a majority of children (Hoagwood & Johnson, 2003).

PREVIOUS RESEARCH

A review of the empirical literature indicates the following as being
effective in the short-term treatment of ADHD: psychostimulant
medication; behavioral modification at home, at school, or in peer-
focused settings; and the combination of stimulant medication and
behavior modification (Chronis, Jones, & Raggi, 2006; Pelham &
Fabiano, 2008). A theoretical framework is helpful in understanding
the mechanisms and potential targets of each treatment. A conceptual
model articulated by Rapport and colleagues (Rapport, Chung, Shore,
& Isaacs, 2001) outlines the underlying factors of ADHD and suggests that biological influences create individual differences in how one's neurobiological system functions. These systems are in turn thought to be responsible for the core features of ADHD, which include hyperactivity, impulsivity, and inattention. Furthermore, the peripheral features of ADHD (e.g., poor social skills, academic problems) are a consequence of dysfunction associated with the core features. This framework therefore suggests that treatments that target neurobiological substrates, such as stimulant medication, will affect the core features of ADHD and have a trickle-down effect on the peripheral features. Treatments that target peripheral features would not be expected to create significant change in the core features; rather, their effects will be more isolated to the targeted peripheral features.

Behavioral treatments are the only nonpharmacological interventions currently supported in the literature. In fact, behavioral parent training, behavioral interventions in the classroom, and peer-focused behavioral interventions (e.g., summer treatment programs) meet the criteria for well-established treatments for ADHD (Pelham & Fabiano, 2008). Some findings demonstrate the feasibility of behavioral treatments alone as an efficacious treatment option for ADHD. Findings from the largest study of ADHD to date, the Multimodal Treatment Study of Children with ADHD, indicate that during an intensive summer treatment program for more than 30 dependent measures of behavior, children undergoing both drug and behavior treatment did significantly better on only five measures when compared to the behavioral-treatment-only group (Pelham et al., 2000). The authors suggested that when children are treated with a multicomponent intensive treatment regimen, daily medication may add little improvement. The treatment regimen in the study was intensive and so included group and individual parent training, teacher contracts, and a summer treatment program. This type of rigorous treatment has several disadvantages—namely, the high levels of time, money, and resources needed to implement it. These reasons make this type of program difficult to transport to community settings and may thus not offer a viable option for many families. Chorpita (2003) suggests the importance of evaluating how well a treatment can be implemented in naturalistic conditions. To be truly valuable, a treatment must demonstrate not only its efficacy but its viability in a community setting. Previous research has demonstrated that some behavioral programs are cost efficient and effective, such as self-administered parent training (Webster-Stratton, Hollinsworth, & Kolpacoff, 1988).
Much of the groundwork for effective parent training programs has emerged from research with children exhibiting conduct problems. One rationale for parent training with this population is that children with externalizing behaviors may place stress on families and so decrease parents' feelings of competence. In turn, children who exhibit externalizing behavior may experience authoritarian and inconsistent parenting and other family factors that may increase the risk of child conduct problems (Webster-Stratton & Reid, 2003). Thus, interventions that address family functioning may help to reduce this stress and so improve parents' competence in dealing with a difficult child (Anastopoulos & Farley, 2003). Changing parenting behaviors may have an impact on the child's behavior and thereby help the family function more effectively. Webster-Stratton and Reid (2003) suggest that because parental influence on children's development is so influential, parent training is a "strategic first step" (p. 234) in improving children's behavior. The empirical support for parent training has supported this rationale. For example, Eyberg, Nelson, and Boggs (2008) conducted a review of studies that examined treatments for conduct-disordered children and adolescents, evaluating them based on criteria from the American Psychological Association's Division 12 Task Force on Promotion and Dissemination of Psychological Procedures. The Incredible Years Parent Training Program was one of the programs that met these criteria for being a probably efficacious treatment.

The Incredible Years Parents, Teachers, and Children Training Series employs videotape modeling and suggestions, discussion, and rehearsal to improve behaviors in children from age 2 to 12. The parent training portion of the Incredible Years program emphasizes positive strategies for behavior management. Its videotape format allows it to be self-administered at home or carried out within a group training format. Substantial evidence exists for the efficacy of this video training within families of children with oppositional defiant disorder and conduct disorder, when carried out in a group format (Webster-Stratton & Reid, 2003). The Incredible Years Parent Training Program has significantly increased parents' positive affective responses (i.e., praise) and nonviolent discipline, and it has decreased parental use of criticism and harsh discipline. In children, the parent training programs have been shown to decrease oppositional, defiant, and aggressive behaviors. Studies have also indicated that the benefits of this program have persisted for as long as 3 years (Webster-Stratton & Hammond, 1997; Webster-Stratton et al., 1989). Previous research
on this program has demonstrated improvements in some externalizing behaviors (e.g., aggression) as well as some peripheral features of ADHD (e.g., social skills).

Although evidence indicates that parent training has reduced noncompliance and conduct problems, less data are available on the effects of these treatments for ADHD (Anastopoulos & Farley, 2003; DuPaul & Stoner, 2003). A study by Hartman, Stage and Webster-Stratton (2002) revealed that children with attention problems and conduct problems benefited from the Incredible Years program. The Hartman and colleagues study provided evidence that the program is most effective with younger children (< 7 years) and that acting early with children who have attentional problems and conduct disorder could be an effective way to prevent more serious behaviors. A second study found the Incredible Years program to be effective for single mothers of children with ADHD—namely, improving reports of child behavior from teachers (mixed results for parents), improving family functioning, and reducing parental stress and depression at follow-up (Lees & Ronan, 2008).

A number of studies provide support for the Incredible Years Parent Training Program in a group training format (see Webster-Stratton & Reid, 2003). Less research has documented the effects of the program in its self-administered format; however, several studies have demonstrated efficacy in this format (Kratochwill, Elliott, Loitz, Sladeczek, & Carlson, 2003; Webster-Stratton, 1990, 1992; Webster-Stratton et al., 1988). The self-administered format has been compared to a treatment based on group discussion and videotape modeling, a group discussion treatment, and a control group, with few differences among the three experimental conditions in regard to improved child behavior outcomes and with all being superior to the control group (Webster-Stratton et al., 1988). The self-administered format was also compared to a self-administered format with therapist consultation and to a control group (Webster-Stratton, 1990). Findings from this study found positive outcomes for both treatment groups in terms of parental report of behavior problems, stress level, and some parenting practices, as well as through observations of child behavior. When it came to children's deviant behavior, the therapist consultation group was superior to the self-administered group. Another study found that, compared to a control group, parents who self-administered the Incredible Years program reported improved child behavior and some improved parenting practices, as well as some improvements in home observations with maintenance of findings after 1 year.
(Webster-Stratton, 1992). Kratochwill and colleagues (2003) compared manual and videotape-based parent and teacher training formats with a control group. Their study included children in Head Start, with externalizing and internalizing concerns. The researchers reported some improvements based on single-case analysis; however, these findings were less robust than those reported by Webster-Stratton and colleagues (Webster-Stratton, 1990, 1992; Webster-Stratton et al., 1988). Because this format provides an option that has accumulated some support, that is time efficient and cost effective, and that could be facilitated through school personnel, further research is warranted.

THE SOLUTION

Clearly, there is a demand for a treatment option for ADHD that is cost effective and easily implemented. Knowledge of the effectiveness of a range of treatments is relevant for school professionals in providing families with a set of viable treatment alternatives, especially when considering that schools are an essential setting for addressing children’s mental health needs (Hoagwood & Johnson, 2003). Although parent training has established efficacy, it is not regularly implemented in community settings (Pelham & Fabiano, 2008). Schools provide an excellent setting to deliver behavioral parent training. One way to facilitate the implementation of behavioral parent training in the schools is to offer it to parents in a self-administered format, which provides families with flexibility and removes the burden from school personnel in delivering all the content. School professionals such as school psychologists and social workers, who have training in behavioral strategies for altering behavior, monitoring response to intervention through data collection, and facilitating home-school collaboration, could readily serve as consultants to families to deliver this type of intervention. Despite a number of parent management programs, the Incredible Years Parent Training Program has established empirical support for its use. In addition, this program offers materials in a self-administered format. The Incredible Years Basic Parent Training Program for school-age children (Webster-Stratton, 2002) is a videotaped parent training program that contains vignettes highlighting effective and ineffective parenting strategies and the discussion of these strategies. There is also a set of self-administered workbooks that accompany the series, which include short readings and vignettes with questions designed to involve parents in thinking about parent–child interactions in more depth. The workbooks
contain lists of behaviors in which the parents are directed to engage, as drawn from the content of the videotapes and workbooks. In addition, refrigerator notes are included with important points from the video and workbook. The sections composing this program are entitled Promoting Positive Behaviors, Reducing Inappropriate Behaviors, and Supporting Your Child’s Education and so compose areas that are important to address for children with ADHD. The sections are provided on separate videotapes so that parents can review one section at a time. The length of all three videotapes is 2 hours and 23 minutes. The topics include the importance of parental attention, how to use praise and rewards, effective limit setting, handling misbehavior, how to communicate effectively, problem solving for parents, and how to support your child’s education. The current cost for the full set of videotapes in this series is $995, whereas the self-administered workbooks cost $40 (see http://www.incredibleyears.com). Attendance at one of the many trainings on this program (which costs about $400) is highly recommended for those interested in using the approach with their schools.

EVIDENCE OF EFFECTIVENESS

The purpose of this study was to determine the degree to which parents perceived the self-administered version of the Incredible Years Parent Training Program to be effective in improving their children’s behavior, as well as to examine the integrity and acceptability of its implementation. Specifically, the following questions were addressed:

1. Is the self-administered Incredible Years Parent Training Program an effective treatment option for ADHD, as demonstrated by improving parental perceptions of children’s behavior and parental practices?
2. Can the self-administered Incredible Years Parent Training Program be carried out with a high level of integrity by parents of children who exhibit ADHD behaviors?
3. Do parents of children who exhibit behaviors related to ADHD report the self-administered Incredible Years Parent Training Program as being an acceptable treatment option?

Participants

Five parents and their children (ages 6 to 9) participated in this study. All were Caucasian. Each family had the option of having either
parent participate; in all five cases, the mother participated. Study inclusion criteria included the following: First, the participant’s child must be between 5 and 12 years old; second, the participant must report that her child has ADHD as diagnosed by a physician or psychologist, or she must suspect that her child has ADHD (Case 4); third, baseline data, as gathered using the Behavior Monitor for ADHD Rating Scales–Parent Monitor Ratings (BASC-PMR) and the Eyberg Child Behavior Inventory, must demonstrate an externalizing behavior problem that is at least one standard deviation above the mean; and, last, the participant’s child must not be currently taking medication to treat ADHD. Table 1 provides parents’ ratings of their children’s behaviors, including reported diagnoses at the point of entry into the study. Four of the five parents in this study indicated significantly elevated levels of one or more peripheral features of ADHD (internalizing behavior and adaptive behavior), whereas all the parents reported significant problems in one or more of the core features (attention, hyperactivity, and impulsivity). Parents received a $100 gift card for participating in the study.

**Measures**

Parents completed measures addressing both core (attention & hyperactivity/impulsivity) and peripheral (social, academic, etc.) features of ADHD. The following measures were used and are listed in the order that they were administered.

The LIFT Parenting Practices Interview Form (www.incredible years.com) is a parent report interview that gathers information from parents regarding their parenting practices. This scale comprises seven scales, including Harsh Discipline, Harsh for Age, Inconsistent Discipline, Appropriate Discipline, Positive Parenting, Clear Expectations, and Monitoring. The scale authors report that the subscales were derived theoretically and refined using exploratory factor and internal consistency analyses, with resulting internal consistencies ranging from .62–.82 for the seven subscales.

The Eyberg Child Behavior Inventory (Eyberg & Pincus, 1999) is a norm-referenced behavior rating scale consisting of 36 items. The inventory was designed for children between the ages of 2 and 16. The scale takes approximately 5 minutes to administer, and it contains two subscales: Intensity and Problem. Internal consistency reliabilities range from .88 to .95. Test–retest reliabilities range from .86 to .88. The Social Skills Rating System–Parent Form (Gresham &
Table 1. Children's Demographic Data at Baseline Data Collection

<table>
<thead>
<tr>
<th>Child</th>
<th>Diagnosis</th>
<th>Sex</th>
<th>Age</th>
<th>Attention</th>
<th>Hyperactivity</th>
<th>Internalizing</th>
<th>Adaptive</th>
<th>Social Skills</th>
<th>Problem Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ADHD, SLI</td>
<td>M</td>
<td>6-6</td>
<td>62&lt;sup&gt;c&lt;/sup&gt;</td>
<td>64&lt;sup&gt;c&lt;/sup&gt;</td>
<td>91&lt;sup&gt;d&lt;/sup&gt;</td>
<td>33&lt;sup&gt;c&lt;/sup&gt;</td>
<td>84&lt;sup&gt;c&lt;/sup&gt;</td>
<td>125&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>2</td>
<td>ADHD-PI</td>
<td>M</td>
<td>8-1</td>
<td>72&lt;sup&gt;d&lt;/sup&gt;</td>
<td>50</td>
<td>46</td>
<td>43</td>
<td>104</td>
<td>112</td>
</tr>
<tr>
<td>3</td>
<td>ADHD</td>
<td>F</td>
<td>9-7</td>
<td>74&lt;sup&gt;d&lt;/sup&gt;</td>
<td>69&lt;sup&gt;e&lt;/sup&gt;</td>
<td>66&lt;sup&gt;e&lt;/sup&gt;</td>
<td>43</td>
<td>106</td>
<td>112</td>
</tr>
<tr>
<td>4</td>
<td>CI, SLI</td>
<td>F</td>
<td>8-0</td>
<td>77&lt;sup&gt;d&lt;/sup&gt;</td>
<td>75&lt;sup&gt;d&lt;/sup&gt;</td>
<td>55</td>
<td>39&lt;sup&gt;c&lt;/sup&gt;</td>
<td>77&lt;sup&gt;c&lt;/sup&gt;</td>
<td>114</td>
</tr>
<tr>
<td>5</td>
<td>ADHD</td>
<td>M</td>
<td>6-5</td>
<td>54</td>
<td>79&lt;sup&gt;d&lt;/sup&gt;</td>
<td>62&lt;sup&gt;e&lt;/sup&gt;</td>
<td>43</td>
<td>84&lt;sup&gt;c&lt;/sup&gt;</td>
<td>122&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Note: BASC-PMR = Behavior Monitor for ADHD Rating Scales–Parent Monitor Ratings; SSRS-P = Social Skills Rating System–Parent Form; ADHD = attention-deficit/hyperactivity disorder, combined type; ADHD-PI = attention-deficit/hyperactivity disorder–predominantly inattentive; CI = cognitive impairment; SLI = speech and language impairment.

<sup>a</sup>As reported by parents.
<sup>b</sup>As reported in years–months.
<sup>c</sup>Indicates at risk.
<sup>d</sup>Indicates clinical significance: BASC-PMR, M = 50, SD = 10; SSRS-P, M = 100, SD = 15.
Elliott, 1990) is a norm-referenced rating scale used to measure social skills, problem behaviors, and academic competence (teacher version only) for children aged 3 to 18. The scale takes 15 to 25 minutes to administer. The parent measure includes 55 questions and includes the Social Skills and Problem Behaviors subscales. Internal consistency reliabilities range from .73 to .95 and test-retest reliability from .65 to .93. The BASC-PMR (Kamphaus & Reynolds, 1998) is a rating scale used to evaluate the effectiveness of ADHD treatments in terms of core and peripheral features of ADHD. The measure is designed for use with children aged 4 to 18. The BASC-PMR includes 47 items and the following composite areas: attention problems, hyperactivity, internalizing problems, and adaptive skills. Internal consistency reliabilities for the parent measures range from .64 to .83. Test-retest reliabilities range from .57 to .90. The Global Change Form (GCF) is a brief form used to assess parent-rated changes in children's behavior since the treatment program began. This measure contains four 7-point Likert-type items that address parents' perceived changes in core features of ADHD (attention and hyperactivity/impulsivity) and peripheral features of ADHD (social and academic changes). The National Institute of Mental Health developed this measure to evaluate drug treatment effects.

Goal Attainment Scaling (Kiresuk, Smith, & Cardillo, 1994) is a brief form used to quantify parents' report of treatment progress. The scale used for this study is a 5-point rating scale, ranging from -2 to +2, on which parents rate where their children are currently functioning in terms of two peripheral features of ADHD: social and academic functioning. Positive ratings indicate parents' perceived improvement, whereas negative ratings indicate that the parent perceives that the behavior is worse since the start of treatment.

The Parent Video Evaluation is a five-item scale used to determine how helpful parents perceive the video program to be in general, how helpful the examples are, and how helpful the program is in terms of changing the behavior of both parent and child. The Parent Video Evaluations are part of the Incredible Years system of materials. There is currently no psychometric information reported for this measure.

The Treatment Integrity Checklists obtain information regarding how much of the videos the parent watched, how much of the workbooks they completed, and how many target behaviors they engaged in. The checklists were created by the second author of this study using the suggested activities from the video-based treatment workbooks. Parents self-reported on their behaviors, using percentages for how
much of the video and workbooks were completed and indicating a yes or no for whether they engaged in the target behaviors. Sample target behaviors include “observe own use of praise” and “praised child when complied with command.” The percentage of the behaviors implemented was then calculated from a list of all the target behaviors.

The Treatment Evaluation Questionnaire–Parent Form (Kelley, Heffer, Gresham, & Elliott, 1989) is a rating scale used to measure parents’ perceptions of acceptability, appropriateness, and effectiveness of an intervention. The purpose is to help distinguish acceptable treatments from those that are unacceptable. This questionnaire consists of 21 items and has three scales: the Acceptability Scale, the Effectiveness Scale, and the Amount of Time Scale. The development of this form was based on the Treatment Evaluation Inventory (Kazdin, 1980).

Procedures

The perceived effectiveness of the intervention was assessed through an AB pretest–posttest design. Several measures were administered pre- and posttreatment (LIFT Parenting Practices Interview Form, Eyberg Child Behavior Inventory, Social Skills Rating System–Parent Form); several measures were repeatedly administered during each of the seven home visits (BASC-PMR, Parent Video Evaluation, Treatment Integrity Checklists); and a final set of measures was administered weekly (GCF, Goal Attainment Scaling). Families were recruited through letters and fliers sent to physicians, psychologists, and schools. Individuals interested in participating were determined eligible via a phone call reviewing inclusion criteria with the second author. If the volunteer was eligible, a home visit was set up to begin collecting baseline data. During this initial home visit, parents completed a demographic information form, the Parent Practices Interview, the Eyberg Child Behavior Inventory, the Social Skills Rating System–Parent Form, the BASC-PMR, the GCF, and the Goal Attainment Scaling. Participants completed the BASC-PMR, the GCF, and the Goal Attainment Scaling during a second baseline visit (1 week later) and again at the end of baseline (1 week after the second baseline visit). The total baseline period included three data collection points.

At the end of the baseline visit, parents were provided with the first section of videos and workbooks (Promoting Positive Behaviors). During the treatment period, weekly measures were completed through a home visit or phone call. Home visits were also used to collect the section of the materials that the parents had watched
and to deliver the next section of videos and workbooks. Phone calls were made to the families during the weeks when videos were not delivered, while the parents were working through the sections of the program. The parents had 2 weeks to complete the first section of the video program and 3 weeks to complete the second section (Reducing Inappropriate Behaviors) and third (Supporting Your Child’s Education). Parents were asked to complete the BASC-PMR, the Goal Attainment Scaling, the GCF, the Treatment Integrity Checklists, and the Parent Video Evaluation during home visits. During these phone calls, participants completed the Goal Attainment Scaling and GCF orally. The intervention program lasted 8 weeks, slightly shorter than the 10–12 weeks of self-administered treatment reported in the literature (Webster-Stratton et al., 1988). Also completed was a 1-month follow-up of perceived behavioral change. In sum, there were seven home visits (three baseline, three treatment, one follow-up) and five phone calls. A graduate student collected data under the supervision of a licensed psychologist who has received extensive training on the Incredible Years program but is not certified in this approach.

Analysis

The analysis varied, depending on whether the measures were repeatedly administered or administered only pre- and posttreatment. For the repeatedly administered outcome measures (Goal Attainment Scaling, GCF, BASC-PMR), the effect size was calculated (the effect size measures the magnitude of the effect and compares the baseline and treatment phases). The effect size was calculated by finding the difference between the mean of the treatment standard scores and the mean of the baseline standard scores and by dividing this product by the standard deviation of the baseline (or the overall standard deviation, if there was no variability during the baseline). The Reliability Change Index was calculated for each outcome, as administered by a pretest and a posttest (e.g., Eyberg Child Behavior Inventory, Social Skills Rating System–Parent Form). This method determines whether the impact of the intervention is perceived to be effective (Albers, Elliott, Kettler, & Roach, 2006). The Reliability Change Index is calculated by subtracting the pretest score from the posttest score and dividing the outcome by the standard error of measurement. Whereas the Reliability Change Index is used to determine significance, the effect size is used to determine magnitude.
RESULTS AND DISCUSSION

Research Question 1

Treatment effectiveness was examined via parents’ perceived changes on peripheral and core symptoms of ADHD. Table 2 provides a summary of perceived effectiveness on core and peripheral symptoms of ADHD.

Adaptive behavior. The first peripheral symptom addressed was that of adaptive skills, which assessed behaviors such as adaptability and leadership. The BASC-PMR average scores for adaptive skills ranged from a T score of 36 to 46 across the baseline phase and 43 to 56 during the treatment phase (an increase in scores is desirable). Effect size calculations (range, 1.06 to 2.31) indicated that all five parents reported a large improvement from the baseline phase to the treatment phase. At the 1-month follow-up, T scores were similar to those during the treatment phase, ranging from 43 to 53.

Internalizing behavior. A second peripheral feature assessed was that of internalizing behavior, which examined behaviors such as anxiety and depression. On the Internalizing subscale of the BASC-PMR, the average baseline T scores ranged from 49 to 78 and during the treatment phase, from 39 to 65 (a decrease in scores is desirable). The effect size calculations (range, −0.44 to 3.44) indicated a large perceived improvement in internalizing problems for four of five parents, who indicated a decrease in internalizing problems from the baseline to treatment phases (one parent showed a small increase). The 1-month follow-up scores ranged from 38 to 66 and were similar to those during the treatment phase.

Social skills. The Social Skills Rating System—Parent Form scores for social skills ranged from 77 to 106 during the pretest and from 82 to 118 at the posttest (an increase in scores is desirable). The Reliability Change Index (range, −0.20 to 1.09) indicated insignificant improvements at the end of treatment for four of five parents (one showed an insignificant decrease in social skills). At the follow-up, scores ranged from 84 to 118, and the Reliability Change Index calculations for four parents indicated insignificant improvement and for one parent, no change. The GCF was also used to determine parents’ perceptions of change in the social domain, from the baseline to treatment. When the effect size comparing the baseline and treatment phases on the GCF was calculated, two of five parents indicated large improvement and one perceived a moderate improvement (two showed no change;
### Table 2. Summary of Integrity and Effectiveness Data Across Participants

<table>
<thead>
<tr>
<th>Participant</th>
<th>Videotapes Watched</th>
<th>Workbook Completed</th>
<th>Behaviors Implemented</th>
<th>Internalizing</th>
<th>Adaptive</th>
<th>Attention</th>
<th>Hyperactivity</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>100</td>
<td>93</td>
<td>79</td>
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<tr>
<td>3</td>
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</tr>
<tr>
<td>4</td>
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<td>48</td>
<td>1.12</td>
<td>2.31</td>
<td>4.85</td>
<td>8.95</td>
</tr>
<tr>
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<td>75</td>
<td>1.46</td>
<td>1.06</td>
<td>-0.86</td>
<td>-0.12</td>
</tr>
<tr>
<td>Average</td>
<td>98</td>
<td>44</td>
<td>70</td>
<td>1.33</td>
<td>1.68</td>
<td>1.87</td>
<td>2.06</td>
</tr>
</tbody>
</table>

**Note.** BASC-PMR = Behavior Monitor for ADHD Rating Scales–Parent Monitor Ratings. Effect size above 0.80 is considered a large improvement (Cohen standard for large improvement). Regarding the Global Change Form (GCF), each participant improved in core symptoms and peripheral symptoms, with core referring to the attention and hyperactivity/impulsivity questions collapsed and with peripheral referring to the social and academic questions collapsed. GCF scores reported are parents’ ratings at the end of treatment on the measure, which assesses perceived change since the treatment began; that is, *improved* refers to scores where parents (at the end of treatment) rated their children’s behavior as being improved since the study began.
effect size range, 0 to 1.27). Because the GCF asks parents to rate change from the beginning of treatment, it makes sense to look at parent ratings on this measure at the end of treatment.

*Academic skills.* The GCF was used to determine parents’ perceptions of change in their children’s academic skills across the baseline and treatment phases. In this study, four parents indicated large improvement (one showed small improvement) across baseline to treatment phases (effect size range, 0.24 to 1.22). The Goal Attainment Scaling was also used to describe parents' report of progress regarding two peripheral symptoms associated with ADHD (social and academic skills). On the Goal Attainment Scaling, four of the five parents rated their children’s behavior as demonstrating a large improvement (one reported a small to moderate improvement) across the treatment phase when compared to the baseline phase (effect size range, 0.40 to 1.81).

*Attention problems.* Perceived change in core symptoms was also assessed. Attention problems decreased from the baseline period to the end of treatment, based on the BASC-PMR ratings. The average BASC-PMR scores for attention problems ranged from 61 to 75 during the baseline phase and from 57 to 72 during the treatment phase (a decrease in scores is desirable). The effect size calculation for the BASC-PMS (range, −0.86 to 4.85) suggests that the treatment had a large impact on parents' ratings of attention problems for three of the five parents (with one showing small improvement and one showing a large increase in inattentive behavior). The range of scores at follow-up was even lower than that during the treatment phase, ranging from 52 to 69. To further address changes in the core features of ADHD, the GCF was used. The effect size calculations revealed that three parents indicated large improvement (one showed moderate improvement; one showed no change) during the treatment phase when compared to the baseline phase (effect size range 0–1.97).

*Hyperactivity/impulsivity.* Hyperactivity was measured as another core feature of ADHD. The average hyperactivity scores on the BASC-PMR ranged from 59 to 81 across the baseline phase and from 55 to 81 during the treatment phase (a decrease in scores is desirable). The effect size calculation for hyperactivity (range, −0.22 to 8.95) indicates a large impact on ratings for two of the five parents from baseline to treatment (one showed moderate improvement; two showed a small increase in problem behavior). At follow-up, scores decreased slightly, ranging from 50 to 72. On another measure that asked parents to report on their children's hyperactivity, the GCF, four of five parents indicated large improvement in the hyperactivity/impulsive domain (one showed a small improvement; effect size range, 0.16 to 1.46).
Problem behavior. The Eyberg Child Behavior Inventory gathered general information about the children's level of problematic behavior as perceived by their parents. On the inventory's Problem subscale, three children were above the cutoff at the start of treatment, meaning that they had a significant level of problem behavior on this measure. At the end of treatment, two of these children remained above the cutoff, whereas none were above the cutoff at follow-up. On the Intensity subscale, three children were above the cutoff at the start of treatment, but no students were above the cutoff at the end of treatment or at follow-up. In sum, considerable changes in peripheral symptoms were reported across several areas for all five participants. When the aims for this intervention are contextualized within a conceptual model for ADHD (Rapport et al., 2001), its targets focus on the peripheral factors associated with ADHD (e.g., strained family relationships, academics) and less so on the core features of ADHD, which suggests that the treatment would primarily affect the specified peripheral features. Parents in this study rated specific peripheral symptoms of ADHD as improving. Improvements in the adaptive skills domain on the BASC-PMR were found across all five participants. In the areas of internalizing problems and academic behaviors, a majority of the parents consistently indicated improvements.

Compared to changes in the peripheral symptoms, perceived improvements in core symptoms of ADHD were found for fewer participants. Given the lack of previous data on the effects of this treatment on core symptoms and given the less direct focus on core features in this treatment, this finding was not surprising and thus fits with the theoretical model of ADHD previously presented. There was a lack of consistency across the core symptoms, which was true across participants and when some of the core symptoms were measured with different instruments (e.g., hyperactivity on the BASC-PMR versus the GCF). On average, the children began and ended in the at risk or clinically significant range on the BASC-PMR for the Attention and Hyperactivity subscales. Although parents' perceptions of behavior on the BASC-PMR were not consistently normalized, all parents did report, at the end of the treatment, that their children's behavior had improved for peripheral and core features of ADHD based on the GCF. Findings on the Eyberg Child Behavior Inventory demonstrated a few of the children moving from above the cutoff to below from the start of treatment to the end and at follow-up. However, this finding should be viewed cautiously, given that it necessitates a report of improvement consisting of only a few points on this scale.
A promising outcome of this study was the reported maintenance of many gains through the 1-month follow-up. Most gains were maintained at the follow-up from the end of treatment with scores similar or, in some cases, better than those during the treatment phase. This result is promising when considering a difficulty with one commonly used treatment for ADHD, psychostimulants—namely, a reemergence of symptoms after the medication is removed. Future research could determine how long treatment gains are maintained, as well as examining causal factors (e.g., improved parenting practices).

*Parenting practices.* One explanation for some of the parents' perceptions of changes in their children's behavior could be the result of a change in their reported parenting practices, as examined through the use of the Parent Practices Interview. Table 3 presents the mean scores at baseline, end of treatment, and follow-up, as well as the percentage of changes across these phases. In summary, parents reported a decrease in all negative parenting practices (harsh discipline, harsh for age, inconsistent discipline). They reported an improvement in three positive parenting practices (positive parenting, clear expectations, and monitoring) but a decrease in one positive practice (appropriate discipline).

The hypothesis that reported parent practices would improve over the course of the study was supported at the end of treatment and through the follow-up. These improvements may have been one mechanism by which child behavior improved. This finding replicates that of previous research suggesting that the Incredible Years program demonstrates improvements in parents' functioning (e.g., Webster-Stratton & Reid, 2003). Within the conceptual model for ADHD (Rapport et al., 2001), this finding supports the idea that

<table>
<thead>
<tr>
<th>Parent Practices</th>
<th>Baseline</th>
<th>End of Treatment</th>
<th>Change</th>
<th>Follow-Up</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harsh discipline</td>
<td>36.2</td>
<td>29.6</td>
<td>-18%</td>
<td>32.8</td>
<td>-9%</td>
</tr>
<tr>
<td>Harsh for age</td>
<td>22.4</td>
<td>20.6</td>
<td>-8%</td>
<td>18.6</td>
<td>-17%</td>
</tr>
<tr>
<td>Inconsistent discipline</td>
<td>15.4</td>
<td>13.8</td>
<td>-10%</td>
<td>14.4</td>
<td>-7%</td>
</tr>
<tr>
<td>Appropriate discipline</td>
<td>82.2</td>
<td>75.4</td>
<td>-8%</td>
<td>77.0</td>
<td>-6%</td>
</tr>
<tr>
<td>Positive parenting</td>
<td>63.8</td>
<td>78.6</td>
<td>+23%</td>
<td>77.4</td>
<td>+21%</td>
</tr>
<tr>
<td>Clear expectations</td>
<td>16.2</td>
<td>18.0</td>
<td>+11%</td>
<td>18.0</td>
<td>+11%</td>
</tr>
<tr>
<td>Monitoring</td>
<td>56.2</td>
<td>60.2</td>
<td>+7%</td>
<td>58.8</td>
<td>+5%</td>
</tr>
</tbody>
</table>

*a Change is calculated from baseline to end of treatment.
*b Change is calculated from baseline to follow-up.
targeting a peripheral feature, such as strained family relationships, may produce benefits in this area.

**Research Question 2**

A second research question addressed the integrity with which the treatment was carried out. This question was examined through the use of the Treatment Integrity Checklists. Parents reported how much of the videotapes they watched, how many worksheets within the workbook they completed, and what behaviors they implemented after every set of videos (see Table 2). Parents reported watching most of the videotapes and engaging in a majority of the suggested behaviors; however, the completion of workbooks was variable (0% to 93.33%). This study was the first to explicitly examine the integrity of this treatment in this format. Given the fact that the program was self-administered, it was imperative to determine if a cost-effective and efficient version could be carried out with the same level of integrity as those delivered within more controlled settings. This is key within the context of effectiveness research, which examines dissemination of evidence-based interventions into real-life settings. These results suggest that parents watched the videotapes and engaged in suggested behaviors with a high level of integrity, but this was less true for their completion of the forms within the workbooks. The results presented in Table 2 indicate a need to further study the strength of the relationship between treatment integrity and perceptions of behavioral change. Part of effectiveness research is determining what works under natural conditions (Chorpita, 2003); as such, future research should directly address perceptions of the relative value of the components of this intervention, including workbook completion.

**Research Question 3**

Another research question addressed whether parents found this treatment acceptable. Previous research has indicated that the Incredible Years program is acceptable to parents, but there is less information about the acceptability of the self-administered format. Thus, this study examined this point through the use of the Parent Video Evaluation and the Treatment Evaluation Questionnaire—Parent Form. Data from the Parent Video Evaluation indicated that parents found the intervention to be acceptable. The video evaluation form has a scale of five answers, ranging from 1 (not helpful) to 5 (very help-
ful). Measures of the three videotapes revealed that the first section, Promoting Positive Behavior, had an average score of 4.20 (SD = 0.89), indicating that parents found it helpful and very helpful. The section Reducing Unwanted Behavior had an average score of 4.30 (SD = 0.73), also indicating that parents found this video helpful and very helpful. The final section in the set, Supporting Your Child's Education, was found to be least helpful to parents, with an average rating of 3.60 (SD = 0.68), meaning that they placed it between neutral and helpful. A general treatment acceptability form was used at the end of treatment—namely, the Treatment Evaluation Questionnaire–Parent Form. This scale asks parents to rate their answer from 1 (strongly disagree) to 6 (strongly agree). The results of this measure indicated an overall average rating of 4.6 per item, which places the average parent ratings between 4 (slightly agree) and 5 (agree). When the measure was broken down by subscale, parents found this treatment to be more acceptable (M = 5.11, SD = 1.30) than effective (M = 4.25, SD = 6.78). This means that parents scored items between agree and strongly agree regarding how acceptable this treatment was (e.g., “This was an acceptable intervention for my child’s problem behavior”). On items that gauged parents’ perceptions of treatment effectiveness (e.g., “Overall, this intervention was beneficial for my child”), responses were between slightly agree and agree. Finally, parents’ perceptions regarding the efficiency of change indicated that they scored between slightly agree and agree (M = 4.20, SD = 1.52). Items that gauged this asked parents to rate how much they agreed with these statements (e.g., “This intervention quickly improved my child’s behavior”).

Traditionally, psychosocial treatments (including the Incredible Years program) have been highly acceptable to parents (Kratochwill et al., 2003; Pelham et al., 2000) despite the fact that such treatments have not been shown to be as efficacious as the psychostimulants for treating ADHD. Within this study, many parents did not view the present treatment as being effective in significantly improving and normalizing aspects of their children’s behavior, but they still found it acceptable. Some potential hypotheses for this finding include the following: First, parents are beginning to see progress toward positive changes in their children’s behavior; second, parents had chosen not to medicate their children, were looking for an alternative to medication, and may have thus been motivated to see this treatment as being effective; and, last, changes in parents’ knowledge regarding their children’s behavior as a result of the training program could have influenced their ratings. Previous research on the Incredible Years
program suggests that increased parental skills (Webster-Stratton & Reid, 2003) lead to more effective management of children’s behavior, which may in turn lead to improved behavior.

Limitations and Recommendations

This study presented a number of limitations. First, changes to the Incredible Years program, in terms of moving it out of the clinic and implementing it within a shorter time frame, are important to recognize. A longer format might have proven to be more acceptable and easier to implement. Moreover, this program was not carried out by an individual who was certified in this program, as recommended by the program’s author for those who carry out this content within a group approach. Note, however, that no certification requirements exist for carrying out this treatment program via a self-administered format. An additional limitation included the lack of a control to ascertain that the training program was responsible for the improvements found. Attempts to replicate study findings across participants were instead utilized.

The majority of the data collected were based on parents’ perceptions of behavior rather than on objective measures of behavior. The challenge with interpreting these data is that parents who undergo the treatment in this study may be influenced in how they rate their children’s behavior. Further research could include direct observation of the child and the parent–child interaction. In addition, including multiple raters of children’s behavior would help to increase the confidence in the results and the generalizability of the findings. In the present study, teachers were asked to participate in assessing children’s behavior by completing rating scales; however, low levels of participation preclude our presenting data from this source. Involving parents and teachers in treatment planning from the initiation may help to improve participation. In the context of disseminating this treatment for use by clinical and school psychologists, it is important to consider the kinds of data collection tasks that are feasible. Finally, generalizing the results of this study to parents of children diagnosed with ADHD is limited by the use of parents’ report of diagnoses, as opposed to the use of a structured diagnostic process. The present method requires cautiousness in generalizing results to children with ADHD. However, this may also be viewed as a strength in the context of transportability research, by opening up the project to parents of children representing comorbid conditions and a variety of symptom profiles.
Limitations with the data analysis are also important to consider when interpreting a data set of this small size. Specifically, the calculation of effect size in this study should be interpreted with caution. This study relied on basic effect size calculations that can be easily understood, yet it is limited by problems of autocorrelation and potential overestimation of improvement (Parker et al., 2005). Therefore, these results should be understood as a summary of preliminary evidence for the use of an intervention in an understudied format (self-administered) and for a set of symptoms that has not yet received much attention (ADHD symptoms).

Conclusion

This study demonstrated a potentially useful, nonmedication-based, parent-led treatment program for children exhibiting behaviors associated with ADHD. This was particularly true for the peripheral features of ADHD, where all participants experienced large improvement in adaptive behavior. The intervention also appeared to be an acceptable treatment that parents could carry out within their homes. Further understanding of the effects of this treatment could be useful for school professionals in providing or suggesting a viable alternative or additive treatment option.

This study is an example of dissemination research, which intends to provide information about interventions implemented within natural settings (Chorpita, 2003). Whereas the efficacy of the Incredible Years program has been quite well researched—especially when carried out via group approaches—there are less data on the effectiveness of this treatment. Furthermore, limited data are available on the integrity and acceptability of this program. In considering how this treatment was implemented in a natural setting, a striking finding was that of the integrity. Parents reported watching almost all the videos and engaging in a majority of the target behaviors; however, completion of the workbook forms was much lower, which may suggest that within real-life settings, workbook completion (or at least the level expected within this study) may not be a feasible treatment task. Future research of treatment components should examine these questions of acceptability and feasibility in more depth by gathering additional information on how parents utilized the materials (e.g., feedback on components of the training and whether parents watched the videos in one session or in several). An examination of a conceptual model for ADHD (Rapport et al., 2001) provides support
for a multicomponent treatment approach to ADHD, as do the results of this study. According to parents' report, this self-administered parent training program was not effective in normalizing the behavior of all the children in the core areas that characterize ADHD; as such, additional treatment may be warranted. However, parents did report that they thought that their children's behavior had improved since the treatment program began. Knowledge of this program and others like it could be useful for school professionals to provide parents with a potentially useful treatment to complement medication or as a viable option for parents who choose not to medicate their child. This treatment is also promising because it can be delivered in a cost- and time-efficient format. The treatment in this format further allows school-based professionals to play a role in monitoring its effectiveness, integrity, and acceptability, thus helping families and schools address behaviors associated with ADHD. The self-administered version of the Incredible Years Parent Training Program offers a flexible, time-efficient, and evidence-based approach to treating children who present with conduct problems; however, more research is needed when used with children presenting symptoms of inattention, hyperactivity, and impulsivity.

REFERENCES


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