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ABSTRACT

This study investigated whether the Barkley behavior change program was effective in changing oppositional-defiant behavior of a 12-year-old, male student. The Barkley program uses an applied behavior analysis approach with daily assessment and reinforcement. Weekly meetings were held between the student's parents and the school psychologist at which the parents were taught the procedures of the 10-step program. The study used a pretest, treatment, posttest design, and also a continuous measurement of daily behavior at school. The treatment lasted for 5 months. Results indicated statistically significant improvement in the student's behavior, and records from the daily behavioral measurements also indicated notable improvement. Observations from the student's parents and classroom teacher verified this improved behavior. (Contains 26 references.) (DB)

# Change the Oppositional-Defiant Behavior with the Barkley Program

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Paper presented at the Annual Conference of the Eastern Educational Research Conference, Hilton Head Island, S. C., Feb. 14-17, 2001

Abstract

This study investigated whether the Barkley behavior change program was effective in changing oppositional-defiant behavior of a 12 years old, male student. The study used a pretest, treatment, posttest design, and also a continuous measurement of daily behavior in school. The treatment lasted for over 5 months. Results from the Dependent t Test showed statistically significant improvement on the behavior of the student, and records from the daily measurement of the student's behavior also indicated notable improvement. Observations from the student's parents and classroom teacher verified this change on the part of the student's behavior in school and at home.

Change the Oppositional-Defiant Behavior

with the Barkley Program

The oppositional-defiant behavior of some students is a very challenging behavior for both classroom teachers and parents. An individual with oppositional and defiant disorder (ODD) demonstrates "a recurrent pattern of negativistic, defiant, disobedient, and hostile behavior toward authority figures that persists for at least 6 months," according to the definitional criteria in the DSM-IV (American Psychiatric Association, 1994, p. 91). These behaviors pose serious damaging effect in both school and home settings (August, MacDonald, & Realmuto, 1996; Kazdin, 1993a). Young children (Haswell, Hock , & Wenar, 1981) and adolescents who demonstrate persistently high levels of oppositional behaviors are also at risk for developing the more serious conduct disorder (Atkins, McKay, Talbott, & Arvanitis, 1996; Webster-Stratton, 1993). To educators and parents, it is important that such oppositional behaviors be modified, changed, and kept to a manageable level in order for these children, their family members and age peers to live or learn in an environment with minimum frustration and few disruptions.

In the past three decades, to help parents and school personnel deal with child oppositional behaviors, professionals and researchers have developed various intervention programs: A clinical training program for parents of children with oppositional behaviors was developed by Ora (1971); techniques for dealing with oppositional behaviors were offered by Haswell, Hock and Wenar (1981, 1982) to parents and family practitioners to minimize negativism and keep it to a manageable level; the use of a paradoxical strategy with oppositional behaviors in the classroom was proposed by Brown (1986); a package of "family and school behavioral programs" that target multiple symptoms across multiple settings (home and school)

and agents (parents, teachers and children) was described by Webster-Stratton (1993); and a set of suggestions on how to deal with child noncompliance in school were presented to teachers by Sutton (1997). In addition, Barkley (1997) introduced a10-step treatment program, which emphasizes consistency and cooperation, prompting behavior changes through a system of praises, rewards and mild punishment. Along with the development of these programs, a variety of attempts on treating child noncompliance or the ODD have been made and studied.

The literature provides some empirical evidence-based knowledge for understanding the oppositional-defiant disorder, and also results on the effectiveness of a number of treatment programs for dealing with such behaviors. The personality profile of the oppositional children was studied by Rapp and Hutchinson(1987). Their findings suggested that oppositional children may be psychologically maladjusted, have problems in social achievement, be depressed, and tend to come from ineffective families which lack cohesion. These children may display delinquent tendencies and be withdrawn. They may also lack social skills, be anxious, overactive but not when they are severely depressed.

In a study that examined parenting stress associated with ODD and young children (N = 92, 2 to 8 years old) diagnosed with single, dual, or multiple disruptive behavior disorders, Ross and Blanc (1998) found that mothers of dual and multiple diagnosis children reported both a higher frequency of behavior problems and higher levels of child-related stress than mothers from the single diagnosis groups. Mothers of ADHD-only and ODD-only children did not differ in levels of child-related stress, which suggests that early identification and intervention are as important for children with ODD as for children with ADHD.

In an investigation on the effects of a protective process model of parent-child affective

quality and young adolescent sense of mastery on young adolescent oppositional behaviors, Spoth, Redmond, Shin and Huck (1999) conducted two studies. They found that parent-child affective quality played a significant role in oppositional behaviors, and a strong negative effect of parent-child affective quality on oppositional behaviors concurrently, also a positive across-time effect. These findings support the effort of school personnel to evaluate school policies and programs that address the quality of students' relationships with their parents and parents' involvement with schools.

A body of literature shows that several programs have been studied and received positive support of empirical evidence. As demonstrated in the literature, one approach to treat the oppositional behaviors is to train parents on how to deal with a child's oppositional behavior (Hanf & Kling, 1973; McMahon & Forehand,1984; Webster-Strattton, 1993). A group of clinic-based studies investigated the efficacy of this general approach of training parents to intervene on the noncompliant behavior. In one study, Danforth (1998) evaluated the effects of an individual parent-training program conducted by a clinical psychologist on mothers' behavior and the oppositional behaviors of 8 children. Results from direct observation, phone interviews, and standardized rating scales showed that the training improved parenting behavior, reduced maternal stress, and children's oppositional behavior. A 6-month follow-up also revealed that the parenting behavior and the children's behavior remained stable.

A slightly different version of the parent training approach is the behavioral family intervention, which has shown promise in helping families with oppositional children. These parent training procedures are based on social learning principles. One such type of program was examined by Connell and Sanders (1997). In the program, they created a self-directed behavioral

family intervention condition (SD), based on self-regulation principles, which consisted of a written information package and weekly telephone consultations for 10 weeks. Results from post treatment indicated that parents in the SD group reported increased levels of parenting competence and lower levels of dysfunctional parenting practices as compared to parents in the control group. In addition, mothers in the experimental group reported lower levels of anxiety, depression and stress as compared to mothers in the control group. The gains in the children's behavior and parenting practices achieved at the post treatment were maintained at a 4-month follow-up measure.

Based on a similar approach but with a slight modification, Dadds and McHugh (1992) compared a behavioral family intervention program plus social support with one without social support. The child management training was provided to single parents of children with oppositional disorder. It was a 6-week parent training program. Factors as parent behavior, child deviant behaviors, social support, parent depression were measured at pre- and post-treatment. It was found that both groups improved on these measures, and the changes were maintained at a 6-month follow-up measure. The group with social support made no extra gains. The results seem to suggest that social support could play a positive role in the behavioral family intervention. However, the social support component that was added to the intervention program needs empirical evidence to justify its efficacy.

A data-driven approach on treating child noncompliance with the Parent-Child Interaction Therapy was developed and tested by Bahl, Spaulding and McNeil (1999). This was an empirically validated treatment for children engaging in oppositional behaviors. Their data collection methods included interviews, completion of parent and teacher reports, behavior

observations during every clinic session, and parental monitoring during each daily home-practice session. Specific parenting skills included praise, ignoring, and time-out. A 6-year-old Caucasian boy with ODD received the treatment, and became compliant with most of his parents' requests during homework sessions, throughout the day, and also at the bedtime.

In addition to the clinic-based studies, a number of studies were conducted with school-based programs. Providing treatment to the children or adolescents themselves directly is another approach for ODD in the literature. Stein and Smith (1990) compared a "Real Economy System for Teens" (REST) program with the traditional talk therapy in the treatment of oppositional-defiant adolescents. The REST program used five target behaviors: room care, personal hygiene, completion of chores, abusiveness and safety violations. In the study, the researchers conducted objective measures and subjective parental ratings. There were 25 adolescents in each group. With this REST program, only food and shelter were provided, the adolescents had to earn money through the REST allowance program to pay for everything else. Their earning was contingent upon compliance with all the rules for the five behaviors. Results showed significantly greater improvement on all the target behaviors for REST group. Parents of the REST group reported that their children seemed happier, more relaxed, and closer to them.

A modified time-out (TO) technique that incorporates a contingent delay was used by Erford (1999) to treat the noncompliant behaviors. In this school-based program, parent training was incorporated, three treatments were established (Control, Regular TO, and Modified TO), and mothers of 36 boys (4 to 8 years old) were randomly assigned to one of the three categories. The study used a repeated measures experimental design. The duration of the project was 3 weeks. The results from the MANOVA analysis indicated that the Modified TO procedures

produced significantly fewer noncompliant episodes than the Regular TO, which in turn resulted in significantly fewer noncompliant episodes than the Control procedures.

In another school-based study, Aebey, Manning, Thyer and Carpenter-Aeby (1999) compared an alternative school program for chronically disruptive youth with (experimental group) and without intensive family involvement (control group). Outcome measures of the study included self-esteem, locus of control, depression level, grades, attendance and eventual drop-out from school. They found that the group with family involvement (N=120) showed statistically significant improvements in locus of control, grade point average, attendance, and reduced drop-out rate, relative to the control group (N=90). These results suggest the importance of family involvement in improving the school performance of the chronically disruptive youth.

The above brief review of literature indicates that researchers and educators have been searching for effective ways to deal with noncompliant behaviors of children in school, and at home as well. While empirical evidence for some programs designed for the treatment of oppositional behaviors is being expanded, there is a lack of empirical evidence on other treatment procedures. The purpose of the study was to investigate whether the Barkley behavior change program was effective in changing a student's oppositional-defiant behaviors.

## Method

### Participant

The participant was a 12 year old, male student. He was from a middle class family. He had been classified as having Oppositional-Defiant Disorder with a co-morbidity of ADD. He was in a self-contained, parochial special education class with 6 other male students, functioning on a 5th-6th grade level in major academic areas. The student displayed the following behaviors in

classroom: frequent interruption or intrusion of others, active defiance toward teacher's directions or class rules, deliberate annoyances and blaming of others for his mistakes, argumentativeness, resentfulness, and anger. At home, he also showed defiance of rules, coupled with inappropriate language, temper outbursts and violence. He displayed all these behaviors in spite of the fact that he was on medication.

Design and Procedure

In order to modify these behavioral problems of the student, the school psychologist introduced his parents to the Barkley behavior change program (Barkley, 1997). It has a multiple-component design, which takes the applied behavior analysis approach with daily assessment and reinforcement. Weekly meetings between his parents and the school psychologist were held to train the parents. At these meetings, the parents were taught the procedures of the 10-step program:

1. Why children misbehave? (To provide background information.)
2. Pay attention. (To educate parents as to how their interactive style with their child greatly affects the responses they receive.)
3. Increasing compliance and independence play. (To teach parents to be aware of the proper behavior and praise it.)
4. When praise is not enough: Poker chips and points. (Introduce to a token reinforcement system.)
5. Time-out and other disciplinary method. (Teach parents how and when to provide punishment for improper conduct.)
6. Extending time-out to other misbehavior. (Utilize what has been learned in other

situations and environments.)

7. Anticipating problems: managing children in public places. (Use the "think aloud-think ahead" technique to anticipate problems out of the home area.)
8. Improve school behavior from home: the Daily School Behavior Report Card. (Inclusion of the classroom teacher in the behavior plan using a rating system)
9. Handling future behavior problems. (Brainstorm for anticipated problems that may arise in the future.)
10. Booster session and follow-up meetings. (Assess and evaluate current behaviors.)

With this program, the parents were given a weekly homework assignment. When they returned to the following session, they would review the homework and any issues of concerns before proceeding to the nest step. The goals set at home for the student were: 1) compliance to home rules; 2) use of appropriate language; 3) completion of home chores. If the homework was not done, the parent needed to practice with the child again in the following session, before moving onto the next step. At Step 8 in the training, a Student Daily Report Card was implemented, which was completed and sent home by the student's classroom teacher each day. The whole training program lasted for 5 months.

Instrument

The "Disruptive Behavior Disorders Rating Scale–Teacher Form" (Barkley, 1997) was used for measuring the student's behavior at the onset and at the end of training program, which constituted a pretest, treatment, posttest design.

A "Student Daily Report Card" was also used to communicate to the parents how the child behaved each day in school, which constitutes a continuous measurement approach. With

the report card, 0 = Not acceptable (behavior), 1 = Good, 2 = Excellent. The card covers 7 class periods; in each period, three types of behavior were measured: Come to class on time; follow directions right away; speak only when called on. Thus, a total of 21 ratings were conducted each school day. The report card was adopted into the program 9 weeks after the training started.

A Dependent t test was conducted on the raw scores of the individual items on the Disruptive Behavior Disorders Rating Scale–Teacher Form at the end of 5 months into the behavior training.

## Results

The results from the Dependent t test analysis provided the following: The mean for the pretest data was 2.6; mean for the posttest data was .7; $t = 10.04$; $p < .000$ (2-Tailed).

A summary of the Daily School Behavior Report Card in the form of total points earned daily is as follows (Recordings started in mid February and ended in early May, covering approximately a 8-week period): The total number of daily recordings was 32; the range of the scores was 22 to 48; the average score was 35. These scores indicated a general positive behavior of the child in school. The Not-acceptable behavior in school (or 0 point earned) displayed by the student was recorded 40 times over this recording period (with a total of 681 recordings). In approximately 6% of the recordings, the student's behavior was rated not-acceptable. In 94% of the recordings, the student's behavior was rated good or excellent.

The participating teacher reported that the student had made great progress since the beginning of the behavior training program. The child's parents also reported notable positive changes of the child at home, and they expressed satisfaction toward the child's present behavior

at home.

## Discussion

The Barkley behavior change program comprises multiple steps of training for parents. These training sessions, in fact, demand a lot of effort and commitment on time from the school psychologist, the parents involved, and the child's classroom teacher. It is widely known that child ODD is a very tough and challenging behavior for teachers and parents. As it is shown that the Barkley behavior change program includes intensive training for parents, requires parents to complete assigned homework (training) and enforce home rules, and the teacher to play an active role in the treatment program in the classroom. It is a demanding program for all parties involved, including the student. The design of the program also denotes a treatment intensity. It seems that the success of the program relies on the enduring effort of all the parties involved in the program. It also seems that the key to the program's success is the intensity of treatment and the coordinated effort all parties involved. Less involvement, effort or commitment from any single party would not have changed the oppositional behavior of the student.

As Bahl and colleagues (1999) stated, empirical documentation of treatment is important not only in pre- and post-treatment, but also throughout the course of intervention, as a means of determining the progress and direction of treatment throughout the course of treatment. Kazdin (1993b), Peterson and Sobell (1994) made similar comments. Hawkins and Mathews (1999) discussed the main reasons for this dual measure design. As stated earlier, this study utilized both measures for documentation, but for another reason. In clinical or case studies, because the number of participants and participating groups is usually small, error factors are not as easily controlled as in studies using larger samples. With the use of dual measures for documentation as

a control mechanism on error factors, results collected from case or clinical studies using small samples are more trust worthy.

## Conclusion

The student participated in the Barkley behavior change program for over 5 months. The results from the pre- and posttest data and daily measurement of the student's behavior in the classroom indicated significant and notable change. Observations from the teacher and the parents also verified this real progress the student made during and at the end of the treatment program.

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