

# Treatment Acceptability of Behavioral Interventions for Children: An Assessment by Mothers of Children with Disruptive Behavior Disorders

Melanie L. Jones  
Sheila M. Eyberg  
Christina D. Adams  
Stephen R. Boggs

**ABSTRACT.** This study assessed the acceptability of six child management interventions as rated by 20 mothers of children actually referred for treatment of a disruptive behavior disorder. Positive reinforcement, response cost, differential attention, time-out, overcorrection, and spanking were evaluated using the Treatment Evaluation Inventory-Short Form. Positive reinforcement was rated as a more acceptable treatment technique than response cost, time-out, differential attention, overcorrection, and spanking. Spanking was less acceptable to the mothers than the other techniques. These results validate those from studies using undergraduates and non-referred parents in suggesting that parents of disruptive children seeking treatment evaluate a treatment approach that focuses

---

Melanie L. Jones, Sheila M. Eyberg, and Stephen R. Boggs are affiliated with the Department of Clinical and Health Psychology, University of Florida.

Christina D. Adams is affiliated with Department of Clinical Psychology, University of Virginia.

Address correspondence to Melanie L. Jones, Department of Clinical and Health Psychology, University of Florida, P.O. Box 100165, Gainesville, FL 32610. Electronic mail may be sent via Internet to (mlibrajones@Juno.com).

The authors thank John Paul Abner and Margarita Labarta for their assistance in subject recruitment. They also thank all of the mothers who participated for their time and willingness to share their opinions and experiences with us.

on increasing acceptable behaviors most highly and an approach that focuses on decreasing negative behavior least favorably. [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-342-9678. E-mail address: [getinfo@haworthpressinc.com](mailto:getinfo@haworthpressinc.com)]

**KEYWORDS.** Preschoolers, oppositional, treatment acceptability, behavioral interventions, discipline

Clinical psychologists must be concerned with how clients evaluate their treatment recommendations. Psychologists often evaluate treatment approaches or techniques based on outcome assessments of their effectiveness in terms of change in presenting symptoms or behaviors (Hibbs & Jensen, 1996), and these assessments are then incorporated into recommendations for future, similar cases. Yet, assessment of change is possible only if treatment is actually implemented, and there are many factors that can influence the course between treatment recommendation and implementation.

Wolf (1978) suggested that the social validity of treatments mediates the relationship between treatment recommendation and implementation or outcome. He conceptualized social validity as existing at three levels. Level I examines the social significance of the treatment goals and addresses the question of whether society wants to meet psychology's specific behavioral goals. Level II examines the social appropriateness of the procedures. This level addresses whether participants, caregivers and other consumers view the treatment procedures as acceptable. Level III examines the social importance of the treatment effects and addresses whether consumers are satisfied with all of the results of the treatment, even the unexpected results.

It is the second level of social validity, the social appropriateness or acceptability of the treatment, that we address in this study. Treatment acceptability refers to judgments about intervention procedures by potential consumers (Kazdin, 1980a). Treatment acceptability may consider assessment of the appropriateness of a treatment for a particular problem; whether the treatment is suitable, rational, and likely to be effective; and whether the treatment coincides with customary notions of the nature of treatment.

The majority of research on treatment acceptability has focused on interventions aimed at changing child conduct problems (Adams & Kelley, 1992; Calvert & McMahon, 1987; Frentz & Kelley, 1986; Heffer & Kelley, 1987; Kazdin, 1980a, 1980b, 1981, 1984). Kazdin

completed a series of studies examining treatment acceptability of several procedures designed to reduce child behavior problems in a hypothetical case using undergraduates as participants. In these studies, reinforcement techniques received higher ratings than time-out procedures. The responses of undergraduate students, however, may not accurately represent those of parents who have experienced living with a difficult child.

More recently, studies using parents to rate treatment acceptability of intervention techniques for children with behavior problems have been conducted (Adams & Kelley, 1992; Calvert & McMahon, 1987; Frentz & Kelley, 1986; Heffer & Kelley, 1987; Miller & Kelley, 1992). Results of these studies have been consistent with the Kazdin studies. As a rule, interventions aimed at increasing positive behaviors (e.g., positive reinforcement) have been rated as more acceptable than interventions designed to reduce inappropriate or excessive behaviors (e.g., spanking, medication). One exception to this rule is response cost, which has been consistently ranked highly as an acceptable technique for reducing negative child behaviors.

Two of the studies using parent participants have addressed the question of generalizability to referred populations of parents with behavior problem children (Frentz & Kelley, 1986; Miller & Kelley, 1992). In both studies, in addition to rating the acceptability of behavioral interventions, parents were asked to rate their own children's behavior, to determine whether the perceptions of their own children would influence their treatment acceptability ratings. Although in both studies the overall ranking of the interventions was the same, the results regarding the influence of the child's behavior were inconsistent: in the Frentz and Kelley (1986) study there was no relationship, whereas parents in the Miller and Kelley (1992) study whose children had more behavior problems were less accepting of spanking and more accepting of medication. Thus, a question remains regarding the applicability of earlier findings to clinic-referred parents of children with conduct problem behaviors.

The purpose of this study was to examine treatment acceptability ratings of commonly-used intervention procedures for children with conduct problems within a sample of mothers referred for treatment for their child with a diagnosed disruptive behavior disorder. Such a sample allowed a direct measure of the acceptability of parent training components by a group of clinic-referred mothers. Based on existing

research, we hypothesized that the procedure used exclusively to increase positive behaviors (positive reinforcement) would receive the highest acceptability ratings by these mothers, and that procedures designed solely to decrease negative behaviors (e.g., time-out, spank, response cost) would receive the lowest acceptability ratings. The ranking of differential social attention, an intervention technique not previously evaluated in acceptability studies, was expected to fall between positive reinforcement and the reductive procedures in acceptability due to its dual focus on increasing positive and decreasing negative child behaviors. Finally, overcorrection was expected to be rated similarly to time-out and spank.

## METHOD

### *Participants*

Twenty mothers of preschool children between the ages of 2 1/2 and 7 years participated in the study. Prior to data collection, a power analysis was performed. Using the means and standard deviations from Heffer and Kelley (1987) and assuming a zero correlation between treatments, it was determined that we would be able to demonstrate an effect size of 1.1 with a sample size of 20 with > 70% power. Any correlation between treatments would only increase power.

The children of the mothers in the study were clinic referred for the treatment of oppositional behavior and/or conduct problems. Children who were included had been judged to meet the criteria for either Oppositional-Defiant Disorder or Conduct Disorder based on the diagnostic impression recorded by a licensed psychologist after the child's intake interview. The reliability of these diagnoses is not known; however, the recommended treatment was to address disruptive behavior. The mean intensity score on the Eyberg Child Behavior Inventory, available for 13 of the children in the study, was 174.54 ( $SD = 42.82$ ) suggesting that these children had severe behavior problems. Children were not tested for the presence of comorbid disorders, but children with a history of mental retardation or chronic illness were not included. Mothers or children with a history of parent training or other prior treatment for child behavior problems also were not included.

Mothers in the sample had a mean age of 33.95 years ( $SD = 8.64$ ). The mean age of the children was 5.53 years ( $SD = 0.96$ ) and most

(75%) of the children were boys. The socioeconomic status of the sample according to the Hollingshead (1975) Four-Factor Index of Social Status was well distributed, with 15% in the lowest group, 35% in Group II, 20% in Group III, 20% in Group IV, and 15% in the highest group. The racial/ethnic breakdown of the sample was: 60% White, not of Hispanic Origin; 30% Black, not of Hispanic Origin; and 10% Hispanic, Asian, or mixed.

### *Measures*

*Demographic Questionnaire.* Mothers completed a demographic questionnaire which included mother's age, race, and marital status as well as demographic data on family members, including sex, age, race, occupation, and education level. Information also was obtained on annual household income, health status of the child, and previous experience with treatment for learning and behavior problems.

*Eyberg Child Behavior Inventory (ECBI; Eyberg & Pincus, in press).* The ECBI measures conduct problem behaviors exhibited by children ages 2 to 16 years. Parents indicate the frequency of behaviors on a 7 point Likert scale (Intensity Score) and whether each behavior is considered to be problematic (Problem Score). Eyberg (1992) has reviewed studies demonstrating the reliability and stability of the inventory as well as its construct validity and sensitivity to change following parent training.

*Treatment Evaluation Inventory-Short Form (TEI-SF; Kelley, Heffer, Gresham, & Elliott, 1989).* The TEI-SF is a 9-item measure that evaluates acceptance of treatments designed for children. Each statement is rated on a five-point Likert-type scale (1 = Strongly Disagree; 5 = Strongly Agree). Item 6 is reverse scored. A total score of 27, therefore, was selected to indicate at least moderate acceptance of an intervention. The TEI-SF asks participants to rate such items as how acceptable the treatment would be, how willing they would be to carry out the procedure, and how likely the procedure was to be effective. Adams and Kelley (1992) found that the TEI-SF discriminated successfully between alternative treatment methods. For the TEI-SF, coefficient alpha has been reported as .85, and discriminative validity has been demonstrated (Kelly, Heffer, Gresham, & Elliot, 1989).

We developed a case description for the TEI-SF that included all the symptoms listed in the DSM-IV diagnostic category of Oppositional-Defiant Disorder. These symptoms include: loses temper, argues with

adults, actively refuses adult requests or rules, deliberately does things that annoy others, blames others for his or her own mistakes, is touchy or easily annoyed by others, is angry or resentful, and is spiteful or vindictive. The case description was reviewed and refined by two clinical child psychologists from a university department of clinical psychology. Ten case descriptions were prepared, differing only in age (3-, 4-, 5-, 6-, or 7-years old) and sex (boy or girl) of the child. The child in the case description for boys was given the name Joe, and for girls was given the name Amy. The child in the case description matched the child of the mother completing the questionnaires in age and sex; however, the race of the child in the vignette was not identified. For example, if the mother participating in the study had a 4-year-old girl with disruptive behavior problems, she would be given the case description of 4-year-old Amy. Participants were presented with the following case description of an oppositional-defiant child:

[Amy/Joe] disobeys [her/his] mother a lot. [S/He] often refuses to do things [her/his] mother asks [her/him] to do, such as picking up [her/his] toys or doing other chores. When [her/his] mother asks [her/him] to put away [her/his] toys [Amy/Joe] often has a temper tantrum which includes yelling and throwing [her/his] toys. If anything breaks during a temper tantrum [s/he] sometimes swears and [s/he] blames [her/his] mother. [S/He] argues with [her/his] mother a lot, especially when [s/he] doesn't get [her/his] own way. [Amy/Joe] also does things all the time to bother [her/his] younger sister, such as poking her over and over to make her cry. [Amy/Joe] also does things to [her/his] sister to make [her/his] mother mad. For example, the other day when [her/his] mother asked [her/him] to pour [her/his] sister's juice, [Amy/Joe] poured it on [her/his] sister. Every time [Amy's/Joe's] mother tries to talk to [her/him] about getting along with [her/his] sister, [Amy/Joe] acts touchy and annoyed.

After the case description, vignettes of six intervention techniques, which might be used by a parent to correct the problem behavior, were provided. The interventions were: (a) differential attention, (b) over-correction, (c) positive reinforcement, (d) response cost, (e) spanking, and (f) time out. These intervention vignettes are shown in Table 1. These interventions were chosen because they represent typical components of parent training programs for young children with conduct

TABLE 1. Treatment Vignettes

**[DIFFERENTIAL ATTENTION]** To correct [Amy/Joe's] behavior, [her/his] mother ignores [her/him] when [s/he] disobeys, and gives [Amy/Joe] lots of attention and praise every time [Amy/Joe] obeys. To ignore [Amy/Joe], [her/his] mother doesn't say anything to [her/him] and acts like she doesn't notice [her/him]. Whenever [Amy/Joe] does what [her/his] mother tells [her/him] to do, [her/his] mother tells [her/him] how much she likes it, such as, "You did a good job of minding! Thank you for helping me."

**[OVER-CORRECTION]** To correct [Amy/Joe's] behavior, [her/his] mother has [her/him] practice following directions whenever [s/he] disobeys. For example, if [Amy/Joe] refuses to put [her/his] shirt in the hamper when told, [her/his] mother has [Amy/Joe] practice obeying by having [her/him] quickly put 10 articles of clothing in the hamper, one at a time. If needed, [Amy/Joe's] mother helps [her/him] practice by, for example, guiding [Amy/Joe] to the hamper.

**[POSITIVE REINFORCEMENT]** To correct [Amy/Joe's] behavior, [her/his] mother waits until after [Amy/Joe] disobeys until a while later and again asks [her/him] to do the same or a different chore. Every time that [Amy/Joe] obeys, [her/his] mother puts a sticker on [Amy/Joe's] sticker chart. When [Amy/Joe] earns four stars, [her/his] mother gives [her/him] extra special things that [s/he] likes. The special things may be extra TV time, a special snack, a trip to the park to swing, or a small toy.

**[RESPONSE COST]** To correct [Amy/Joe's] behavior, [her/his] mother takes away a privilege that [Amy/Joe] normally has, whenever [Amy/Joe] disobeys. [Amy/Joe's] mother tells [Amy/Joe] why [s/he] is losing the privilege for that day. The privileges that [Amy/Joe] might lose are things that [s/he] really likes, like a favorite TV show, dessert after dinner, a bedtime story, or playing with a favorite toy.

**[SPANK]** To correct [Amy/Joe's] behavior, [her/his] mother spanks [her/him] whenever [s/he] disobeys. For example, if [Amy/Joe] refuses to put [her/his] shirt in the hamper, [her/his] mother walks [Amy/Joe] over to a chair and tells [her/him] that because [s/he] didn't do what [s/he] was told, [s/he] is going to get a spanking. [Her/his] mother then puts [Amy/Joe] over her lap and gives [her/him] two spanks on the bottom with the fingers of her hand.

**[TIME-OUT]** To correct [Amy/Joe's] behavior, [her/his] mother has [her/him] sit in a chair in the corner whenever [s/he] disobeys. [Her/His] mother has [her/him] sit on the chair for three minutes. After three minutes, [Amy/Joe's] mother will give [her/him] permission to get off the chair if [s/he] is quiet. If [Amy/Joe] gets off the chair before [her/his] mother gives permission, [Amy/Joe] must stay on the chair another three minutes.

problems. These treatment vignettes were matched in length and were worded in a similar style. The reading level of the child and treatment vignettes according to the Flesch-Kincaid Grade Level is 8.9.

### *Procedure*

Data were collected from both a university psychology clinic and a county mental health clinic in northern Florida. The Institutional Review Board for the university determined that signed informed consent was not needed for this study because it employed a confidential survey procedure. Following their intake interview, the first author was introduced to the family, described the study, and requested the mother's participation. Twenty of the twenty-one mothers who were asked, agreed to participate. Mothers who agreed to participate completed a demographic questionnaire, the TEI-SF, and in some instances, the ECBI. Mothers were told that the TEI-SF is a questionnaire that asks their opinions concerning different treatment techniques that might be used to treat the child in the case description. Presentation order of the treatment vignettes was randomized to control for sequence effects.

## *RESULTS*

To determine how TEI-SF scores varied with respect to individual intervention techniques, an analysis of variance was performed. Significant differences were found between interventions using the TEI-SF,  $F(5,19) = 12.31, p < .0001$ . Table 2 shows the means and standard deviations for the acceptability ratings for each treatment. Duncan's multiple range tests were performed to evaluate differences among the six treatments. Positive reinforcement was rated significantly higher than overcorrection, spank, and differential attention. Spank was rated significantly lower than all other treatments and was the only treatment to receive a rating lower than moderate acceptability. There were no significant differences between response cost, time-out, differential attention, and overcorrection.

## *DISCUSSION*

Of the six alternative interventions, positive reinforcement was rated as the most acceptable treatment, followed, in order, by response

TABLE 2. Mean Acceptability Scores for the Six Interventions

Treatment	M	SD
Positive Reinforcement <sup>a</sup>	34.15	7.47
Response Cost <sup>a,b</sup>	33.35	5.21
Time-out <sup>a,b</sup>	32.55	5.30
Differential Attention <sup>b</sup>	29.30	9.36
Overcorrection <sup>b</sup>	29.20	9.07
Spank <sup>c</sup>	19.75	6.10

Note. N = 20. Items with unlike superscripts are significantly different at 0.05 level.

cost, time out, differential attention, overcorrection, and spanking. In addition, mothers in this study rated both positive reinforcement and response cost as particularly acceptable treatments. Mothers' high acceptance ratings of positive reinforcement and response cost replicate the findings of prior studies (Heffer & Kelley, 1987; Miller & Kelley, 1992). In these previous studies, reductive procedures were also rated as significantly less acceptable than all other treatments. Finally, we predicted that differential attention would receive higher acceptability ratings than reductive procedures. However, the mothers in our study did not rank differential attention significantly higher in acceptability than several procedures designed solely to reduce negative behavior.

Our finding that mothers prefer positive discipline techniques over interventions designed to reduce inappropriate behavior may reflect the mothers' previous success with these interventions. For example, these mothers may have tried time-out and/or spanking and found these interventions to have limited success in improving their own child's behavior. Social desirability is another variable that may have influenced these mothers' preferences. Despite being informed of confidentiality issues, they may have been particularly hesitant to endorse reductive techniques when being evaluated within a clinical setting. In addition, acceptability ratings may be influenced by the parent's perception of their ability to implement the procedure. For instance, mothers may perceive techniques such as differential attention as difficult to carry out since some of the components of this intervention, such as completely ignoring undesirable behaviors, may seem some-

what "unnatural" to a mother. In short, this study examined only a few of the variables that may influence ratings of treatment acceptability.

This study is the first to assess acceptability ratings of interventions used with children with conduct problem behaviors using clinic-referred mothers as raters. This research supports the generalizability of past research examining the acceptability ratings of various behavioral interventions using non-clinic referred mothers as raters. It would be reasonable to assume, for example, that mothers who experience the actual stress of children with conduct disordered behavior would view interventions designed to reduce inappropriate or excessive behavior (i.e., spanking) more favorably.

Certain limitations must be regarded when interpreting the results of this study. First, this study assessed only six different interventions. Other treatment procedures used with children who have conduct problem behaviors, such as medication, were not included. Furthermore, of the treatments that were examined, the variations of these treatments were not assessed. For example, time-out has many important variations. In this study the time-out intervention involved placing the child in a chair facing the corner for three minutes plus five seconds of quiet. Yet, time-out can vary widely by several criteria such as its duration, its antecedent(s), its location(s), and the procedures used to determine its conclusion. Certainly, these parameters of time-out could affect its acceptability rating. The other interventions used in this study could also vary in procedural detail, possibly rendering different acceptability ratings.

A second limitation relates to sample size. Although this study had adequate power to address the major hypotheses, the sample size is not large enough to examine differences in treatment acceptability that might exist between participants of different demographic groupings. Future studies should focus on a large clinic-referred sample with a significant SES range in order to evaluate the effects of SES on treatment acceptability ratings in a clinical population. In addition, exploration of differences in treatment acceptability in different racial/ethnic groups could have important implications for research on patient-treatment matching (Eisen & Silverman, in press). Also in regard to future directions, treatment acceptability of behavioral interventions should be assessed with other populations such as children with developmental delays or chronic illnesses.

It will also be important to examine parents' ratings of treatment components after they have completed treatment with their child. For some treatments, actual use of an effective intervention may significantly increase acceptability ratings (Adams & Kelley, 1992). In comprehensive behavioral treatment programs, the treatments that were actually most effective in improving the behaviors of the treated child, when implemented correctly and consistently, may be the ones that would receive the highest treatment acceptability ratings after treatment. If that were true, acceptability ratings might best be used not as guides for selection of treatment components so much as indicators of treatment components that may need most careful presentation and processing with the parents.

Because both parents ideally participate in parent training programs, future research should assess treatment acceptability ratings of behavioral interventions with fathers of children with behavior problems. For clinicians to incorporate social validity into their treatment decisions, the views of clinic-referred fathers need to be studied. In addition, it will be important to examine whether treatment acceptability ratings are related to such variables as treatment dropout, treatment compliance, or treatment success. The predictive validity of this measure has important clinical implications.

## REFERENCES

- Adams, C.D., & Kelley, M.L. (1992). Managing sibling aggression: Overcorrection as an alternative to time-out. *Behavior Therapy, 23*, 707-717.
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- Calvert, S.C., & Johnston, C. (1990). Acceptability of treatments for child behavior problems: Issues and implications for future research. *Journal of Clinical Child Psychology, 19*, 61-74.
- Calvert, S.C., & McMahon, R.J. (1987). The treatment acceptability of a behavioral parent training program and its components. *Behavior Therapy, 2*, 165-179.
- Eisen, A., & Silverman, W. (in press). Treating Generalized Anxiety in Children: A Second Study Showing that it Matters if Children are Taught to Relax or Change their Thoughts Depending on their Symptoms. *Behavior Therapy*.
- Eyberg, S.M. (in press). *Eyberg Child Behavior Inventory: Professional Manual*. Odessa, FL: Professional Assessment Resources.
- Eyberg, S.M. (1992). Parent and teacher behavior inventories for the assessment of conduct problem behaviors in children. In L. VandeCreek, S. Knapp, & T.L. Jackson (Eds.), *Innovations in clinical practice: A source book* (Vol. 11). Sarasota, FL: Professional Resource Press.

- Eyberg, S. M., & Durning, P. (1994). *Parent-child interaction therapy: Procedures manual*. Unpublished manuscript, University of Florida, Gainesville.
- Frentz, C., & Kelley, M.L. (1986). Parents' acceptance of reductive treatment methods: The influence of problem severity and perception of child behavior. *Behavior Therapy, 17*, 75-81.
- Heffer, R.W., & Kelley, M.L. (1987). Mothers' acceptance of behavioral interventions for children: The influence of parent race and income. *Behavior Therapy, 18*, 153-163.
- Hollingshead, A.B. (1975). *Four factor index of social status*. Unpublished manuscript, Yale University, New Haven, CT.
- Kazdin, A.E. (1980a). Acceptability of alternative treatments for deviant child behavior. *Journal of Applied Behavior Analysis, 13*, 259-273.
- Kazdin, A.E. (1980b). Acceptability of time-out from reinforcement procedures for disruptive child behavior. *Behavior Therapy, 11*, 329-344.
- Kazdin, A.E. (1981). Acceptability of child treatment techniques: The influence of treatment efficacy and adverse side effects. *Behavior Therapy, 12*, 493-506.
- Kazdin, A.E. (1984). Acceptability of aversive procedures and medication as treatment alternative for deviant child behavior. *Journal of Abnormal Psychology, 2*, 289-302.
- Kelley, M.L., Heffer, R.W., Gresham, F.M., & Elliot, S.N. (1989). Development of a modified treatment evaluation inventory. *Journal of Psychopathology and Behavioral Assessment, 11*, 235-247.
- Miller, D.L., & Kelley, M.L. (1992). Treatment acceptability: The effects of parent gender, marital adjustment, and child behavior. *Child & Family Behavior Therapy, 14*, 11-23.
- Wolf, M.M. (1978). Social validity: The case for subjective measurement or how applied behavior analysis is finding its heart. *Journal of Applied Behavior Analysis, 11*, 203-214.

RECEIVED: 12/01/97

REVISED: 12/20/97

ACCEPTED: 01/03/98