

Revisiting Kazdin (1980): Contemporary Treatment Acceptability for Problem Behavior in Children

James W. Diller, Robert M. Brown, Connor H. G. Patros
Eastern Connecticut State University, USA

ABSTRACT

Treatment acceptability may influence whether effective interventions can be disseminated successfully. The current study was designed to assess contemporary acceptability of four treatments for problem behavior in children. Comparisons were made between gender of the respondents and between a group of students and a group of Board Certified Behavior Analysts to evaluate some variables that might influence treatment acceptability. In a replication of Kazdin's (1980) study, an on-line survey was used to evaluate levels of acceptability for four treatments (time out, electric shock, reinforcement, and drug) for two children's problem behavior described in brief vignettes. Treatment acceptability was compared as a function of the case, the participant's gender, and the participant's status as a Board Certified Behavior Analyst (BCBA). Reinforcement was rated most acceptable, followed by time out, drug, and shock. An ANOVA revealed a significant treatment by child interaction. Differences between male and female participants and between certified behavior analysts and untrained individuals were also observed. The findings suggest that treatments vary in acceptability and that variables related to the case and clinician can influence acceptability levels.

Key words: child behavior problem, dissemination, social validity, survey, treatment acceptability.

With respect to treatments for problem behaviors, measures of social validity and treatment acceptability indicate perceived value or appropriateness of particular procedures (Wolf, 1978). Social validity (i.e., a measure of the importance or effects of interventions; Gresham, 1983) has been studied previously because it is a useful measure when examining consumer satisfaction levels, which may foster relationships between researchers, practitioners, and consumers (Baer, Wolf, & Risley, 1987; Fawcett, 1991; Schwartz & Baer, 1991). Because the implementation of procedures is partially dependent on their social validity, it should be considered when practitioners determine the treatment programs that they suggest or implement.

In recent decades, the importance of evidence-based psychological treatment has been realized, but little progress has been made in disseminating evidence-based approaches (Stewart & Chambless, 2007). From this perspective, treatment acceptability may be a key component in understanding obstacles to dissemination. If a treatment procedure demonstrates efficacy but is viewed as unacceptable, either by the client or

* Correspondence concerning this article should be addressed to: James W. Diller, Department of Psychology, Eastern Connecticut State University, 83 Windham Street, Willimantic, CT 06226, USA. E-mail: dillerj@easternct.edu. Acknowledgements: We would like to thank Alan Kazdin for generously providing the materials that he used in his original study. We would also like to thank Kristi Salters-Pedneault, Natalie Bruner, Laura Diller, and Mirari Elcoro for their helpful comments on previous versions of this manuscript. Preparation of this manuscript was supported by the ECSU Liberal Arts Work Summer Institute Grant awarded to James Diller. Connor H.G. Patros is currently in the Department of Psychology at Oklahoma State University.

the clinician, this treatment may not be used. An example is electric shock, which is effective in reducing problem behavior (van Oorsouw, Israel, Heyn, & Duker, 2008), but is rarely used due to low acceptability (e.g., Brown, Michaels, Oliva, & Woolf, 2008). Electrical stimulation has been used recently, however, as a treatment for self-injurious behavior (e.g., Salvy, Mulick, Butter, Bartlett & Linscheid, 2004). In general, treatments with higher levels of social validity (e.g., positive reinforcement) may be more likely to be sought after by clients and carried out by clinicians (Kazdin, 1980).

Kazdin (1980) conducted a study that examined the levels of social validity of four treatments (time out, electric shock, reinforcement, and drug) for problem behavior in children. He was interested in the relative acceptability levels of these treatments, and if variables such as the gender of the child or case severity would impact how the treatments were rated. Kazdin (1980) delivered vignettes to undergraduate students, who responded to a series of questions using a 7-point Likert-type rating scale. He found differences in acceptability across treatments, with reinforcement rated as most acceptable, followed by time out, drug therapy, and shock.

The present study is a systematic replication of the work by Kazdin (1980). We assessed the contemporary acceptability of the treatments that he described. Since Kazdin's original study, myriad factors could have influenced ratings of treatment acceptability for problem behavior in children. For example, functional assessment of problem behavior (e.g., Iwata, Dorsey, Slifer, Bauman, & Richman, 1982) has become vitally important in the selection of treatments (Mace, 1994). The increased prevalence of pharmacological treatments (e.g., Olfson, Gameraff, Marcus, & Jensen, 2003) may be related to an increase in their acceptability, and the positive behavior support movement (e.g., Brown, Michaels, Oliva, & Woolf, 2008; Sugai, Horner, Dunlap, Hieneman, Lewis, Nelson, et al., 2000) may have reduced the acceptability of treatments based on aversive control. Although aversive control is not widely used in practice, its acceptability has been evaluated recently in conjunction with other treatments (Brown, Michaels, Oliva, & Woolf, 2008).

We examined differences in treatment acceptability across treatments, case characteristics, the gender of the survey respondents, and the participants' status as Board Certified Behavior Analysts (BCBAs). Kazdin (1980) presented participants with descriptions of one of two possible case studies and evaluated acceptability of four treatments. In the present study, a within-subject design was used, in which participants evaluated the four treatments for both cases. The evaluation of BCBAs compared to novice respondents extends Kazdin's initial work and demonstrates the influence of training on treatment acceptability ratings.

METHOD

Materials

This study used vignettes describing case studies and treatments that were initially used by Kazdin in his 1980 study. In the original study, Kazdin compared vignettes

describing mild and severe problem behavior; only the mild case presentations were used in the present study. The Treatment Evaluation Inventory (TEI; Kazdin, 1980) was administered on-line. This survey contains 15 items in which participants indicate their ratings of acceptability of treatments using a 7-point Likert-type scale, where 1 represents the lowest level of acceptability, and 7 represents the highest level of acceptability. This instrument asks participants to rate the overall acceptability of the treatment, if the participant would implement the treatment themselves, if the treatment would be appropriate for other types of problem behavior, if the treatment was cruel or would lead to negative outcomes, and if the participant liked the treatment, among other questions.

Participants

Participants were 135 women (124 non-BCBAs, 11 BCBAs) and 42 men (37 non-BCBAs, 5 BCBAs). The non-BCBA-participants were recruited through an on-line participant management system used by a university department of psychology, and by a link on a website that hosts links to on-line research projects. The BCBAs were recruited by e-mail solicitation of a state professional organization for behavior analysts.

Procedures

All procedures used in this study were approved by the Committee on the Use of Humans Subjects in Research of our university. Participants completed an on-line consent form and indicated their gender, that they were at least 18 years old, and their current BCBA status. Each participant then rated the acceptability of each of four treatments for each of two case studies.

First, participants read a hypothetical case study involving a 10-year-old male child, Ralph, who had an IQ of 70. Ralph's problem behaviors were described as disruption, concentration, and attention issues in a school setting. Participants rated the overall acceptability of four treatments (time out, electric shock, reinforcement, and drug) for Ralph's problem behavior using the TEI. In *time out* there was a period of time in which the child was taken away from the problem and could no longer receive reinforcement from his peers, teacher, or family. *Reinforcement* targeted desirable behaviors that were incompatible with disruption. *Electric shock* was used to eliminate problem behaviors by administering a moderately painful shock after the problem behavior occurred. In *drug therapy*, the stimulant drug Ritalin was administered. See Kazdin (1980) for extended case and treatment descriptions.

Following the treatment acceptability ratings of the first case study, the participants read a second case study involving a five-year-old female child of normal intelligence named Ann. Ann's problem behaviors were described as failure to obey and inappropriately expressing anger in residential settings. The participants were asked to rate the same four treatments (time out, electric shock, reinforcement, and drug) for Ann's problem behavior using the TEI. After the participants had read and rated the treatments for Ann's case, they chose to receive two psychology research credits or to be entered into a drawing to receive a \$20 Visa gift card.

RESULTS

Overall, the most acceptable treatment was reinforcement, followed by time out, drug therapy, and shock, consistent with Kazdin's (1980) findings. The individual and overall mean acceptability levels are presented in Table 1. Figure 1 depicts the average acceptability rating for each child and each treatment. A repeated-measures ANOVA revealed a significant treatment by child interaction [$F(3, 528) = 126.03, p < .01$] and a significant main effect of treatment [$F(3, 528) = 696.64, p < .01$], but not a main effect of child [$F(1, 176) = .15, p = .70$].

Paired-samples *t*-tests revealed statistically significant differences between ratings of acceptability for all four treatments between cases. Time out was more acceptable for Ann than Ralph, $t(176) = -11.28, p < .01$. Shock [$t(176) = 2.60, p < .01$], reinforcement [$t(176) = 2.99, p < .01$], and drug [$t(176) = 10.21, p < .01$] were all rated as more acceptable for Ralph than Ann.

Mann-Whitney *U* tests were used to compare the levels of acceptability of the treatments by gender of the rater. For Ralph's problem behavior, women rated shock as less acceptable ($M = 1.46, SD = 1.10$) than men ($M = 1.90, SD = 1.48$), $U(42, 135) = 2055, Z = -2.72, p < .01$, and women rated reinforcement as more acceptable ($M = 6.21, SD = 1.13$) than men ($M = 5.77, SD = 1.38$), $U(42, 135) = 1974, Z = -2.97, p < .01$. For Ann, no other statistically significant differences were observed.

The only significant difference found for Ann's problem behavior was for the use of electric shock. Although both men and women rated shock as unacceptable (overall

Table 1. Mean Acceptability Ratings by Treatment, Case, and Participant.

Treatment	Participants	Ralph	Ann
Time out	Male	3.44 (1.61)	4.33 (1.33)
	Female	3.57 (1.78)	4.59 (1.83)
Shock	Male	1.90 (1.48)	1.73 (1.28)
	Female	1.46 (1.10)	1.39 (1.00)
Reinforcement	Male	5.77 (1.38)	5.76 (1.45)
	Female	6.21 (1.13)	6.04 (1.30)
Drug	Male	3.85 (1.60)	2.95 (1.50)
	Female	3.51 (1.55)	2.72 (1.66)
Time out	BCBA	2.95 (1.78)	3.21 (1.67)
	Non-BCBA	3.60 (1.74)	4.67 (1.77)
Shock	BCBA	1.52 (1.07)	1.38 (0.88)
	Non-BCBA	1.57 (1.23)	1.48 (1.11)
Reinforcement	BCBA	6.34 (0.93)	6.41 (0.85)
	Non-BCBA	6.07 (1.23)	5.92 (1.38)
Drug	BCBA	3.61 (1.50)	2.71 (1.64)
	Non-BCBA	3.59 (1.57)	2.78 (1.62)

Note. Acceptability rating for each treatment, by child, participant gender, and participant BCBA status are presented in this table. Standard deviations are presented in parentheses.

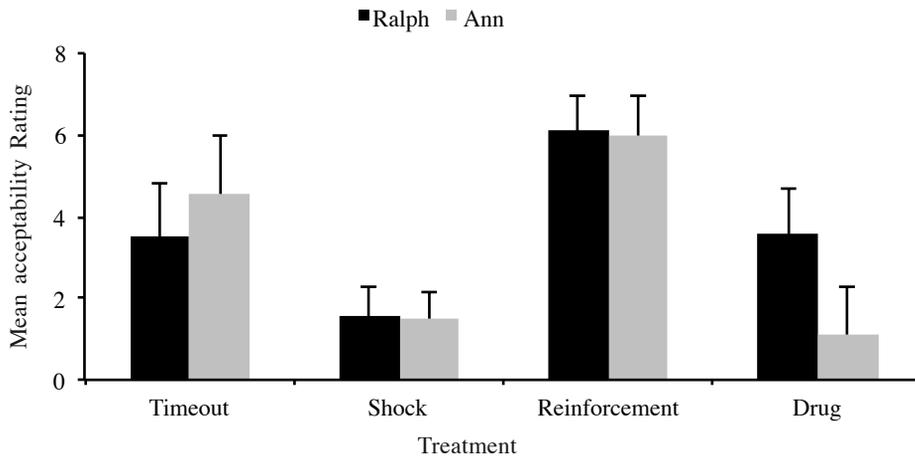


Figure 1. Mean acceptability for each treatment, with black bars representing the case of Ralph and gray bars representing the case of Ann. Error bars represent standard deviation.

$M= 1.52$, with a minimum possible rating of 1), women rated shock as less acceptable ($M= 1.39$, $SD=1.00$) than men ($M= 1.73$, $SD=1.28$), $U(42, 135)= 2067$, $Z= -2.71$, $p<.01$. No other statistically significant differences were observed between these groups.

Mann-Whitney U tests were also used to evaluate differences in acceptability ratings between BCBA certificants and non-certificants. The non-certificants rated time out as more acceptable ($M= 4.67$, $SD= 1.77$) than did the certificants ($M= 3.21$, $SD= 1.67$) for Ann's problem behavior, $U(16,161)= 546$, $Z= -3.79$, $p <.01$. No other statistically significant differences were observed between these groups.

DISCUSSION

The overall acceptability of treatments was consistent with Kazdin's (1980) findings. Unlike Kazdin's study, however, we found a significant treatment by child interaction and differences between the groups of participants. For example, time out was rated as more acceptable for Ann than Ralph, and non-BCBA certificants rated time out as more acceptable for Ann's behavior than did certificants. This difference between BCBA and non-BCBA participants may be attributed to experience using the treatment. That is, time out may be considered relatively restrictive, and other non-restrictive treatments may be equally or more appropriate for this type of problem behavior. The focus on the function of problem behavior by behavior analysts may also account for some of these observed differences. It should be noted that the small number of certified behavior analysts participating in the study may be a limitation. However, the fact that each participant rated all treatments (unlike in Kazdin's initial study, where a between-groups design was used) and the use of nonparametric statistics may help to reduce this concern.

Possible limitations to this study include that both case studies were hypothetical and that the information was delivered via written vignettes. Only mild problem behavior was described, unlike in Kazdin's study, where additional vignettes describing severe problem behavior were included. As this study used a within-subject design to compare the cases, severity of problem behavior was not included to reduce the possibility of participant fatigue. The evaluation of mild problem behavior may be analogous to clinical situations in which intervention is desired before problem behavior escalates to a severe level. Future work could consider severity as an additional factor influencing treatment acceptability.

Additionally, each treatment was implemented in isolation, instead of in combination with other treatments. Descriptions of treatments in combination may be more consistent with practice, where reduction techniques are frequently used in combination with techniques to strengthen more desirable behaviors. Combinations of treatments with varying acceptability (e.g., one relatively high and one relatively low) may alter the level of acceptability of treatment packages.

The use of other modalities of treatment description (e.g., video) could affect levels of acceptability (Foxy, Bremer, Shultz, Valdez, & Johndrow, 1996; Foxy, McHenry, & Bremer, 1996). Future studies may want to evaluate treatment of actual (rather than hypothetical) cases. For example, if participants see or hear a child receive an electric shock, the overall acceptability of the shock as a treatment may decrease. On the other hand, if participants directly observe a reinforcement procedure, the acceptability rating may increase.

The use of students or other individuals without experience administering treatments as participants may capture general attitudes about techniques used to treat problem behavior. Such an assessment is consistent with Wolf's (1978) suggestion that members of society at large should also be considered when evaluating treatment acceptability. Without direct experience with selecting or administering problem behavior, students may provide a less biased view of these procedures, much in the same way parents might at the selection or onset of treatment. Although social validity has moved in a direction where individuals receiving or implementing the treatment have become a focus (e.g., Miltenberger, 1990), more general conceptualizations of this construct may also be useful.

The present study has practical implications in that, when treating children with problem behavior, treatments continue to vary in levels of acceptability (e.g., Brown, Michaels, Oliva, & Woolf, 2008). The levels of acceptability may depend on situational characteristics (e.g., gender of the child, problem behavior) and characteristics of the respondent (e.g., experience administering a particular treatment). Understanding factors that influence treatment acceptability may help with the dissemination of evidence-based practice.

REFERENCES

- Baer DM, Wolf MM, & Risley TT (1987). Some still-current dimensions of applied behavior analysis. *Journal of Applied Behavior Analysis, 20*, 313-327.
- Brown F, Michaels CA, Oliva CM, & Woolf SB (2008). Personal paradigm shifts among ABA and PBS experts: Comparisons of treatment acceptability. *Journal of Positive Behavior Interventions, 10*, 212-227.
- Fawcett SB (1991). Social validity: A note on methodology. *Journal of Applied Behavior Analysis, 24*, 235-239.
- Foxx RM, Bremer BA, Shultz C, Valdez J, & Johndrow C (1996). Increasing treatment acceptability through video. *Behavioral Interventions, 11*, 171-180.
- Foxx RM, McHenry WC, & Bremer BA (1996). The effects of a video vignette on increasing treatment acceptability. *Behavioral Interventions, 11*, 131-140.
- Gresham FM (1983). Social validity in the assessment of children's social skills: Establishing standards for social competency. *Journal of Psychoeducational Assessment, 1*, 299-307.
- Iwata BA, Dorsey M, Slifer K, Bauman K, & Richman G (1982). Toward a functional analysis of self-injury. *Analysis and Intervention in Developmental Disabilities, 2*, 3-20.
- Kazdin AE (1980). Acceptability of alternative treatment for deviant child behavior. *Journal of Applied Behavior Analysis, 13*, 259-273.
- Mace FC (1994). The significance and future of functional analysis methodologies. *Journal of Applied Behavior Analysis, 27*, 385-392.
- Miltenberger RG (1990). Assessment of treatment acceptability: A review of the literature. *Topics in Early Childhood Special Education, 10*, 24-38.
- Olfson M, Gameroff MJ, Marcus SC, & Jensen PS (2003). National trends in the treatment of attention deficit hyperactivity disorder. *American Journal of Psychiatry, 160*, 1071-1077.
- Salvy S, Mulick J, Butter E, Bartlett R, & Linscheid T (2004). Contingent Electric Shock (SIBIS) and a Conditioned Punisher Eliminate Severe Head Banging in a Preschool Child. *Behavioral Interventions, 19*, 59-72. doi:10.1002/bin.157.
- Schwartz IS & Baer DM (1991). Social validity assessments: Is current practice the state of the art? *Journal of Applied Behavior Analysis, 24*, 189-204.
- Stewart RE & Chambless DL (2007). Does psychotherapy research inform treatment decision in private practice? *Journal of Clinical Psychology, 63*, 267-281.
- Sugai G, Horner RH, Dunlap G, Hieneman M, Lewis TJ, Nelson CM, Scott T, Liaupsin C, Sailor W, Turnbull AP, Rutherford-Turnbull III H, Wickhama D, Wilcox B, & Ruef M (2000). Applying positive behavior support and functional behavioral assessment in schools. *Journal of Positive Behavior Interventions, 2*, 131-143.
- van Oorsouw WMWJ, Israel ML, von Heyn RE, & Duker PC (2008). Side effects of contingent shock treatment. *Research in developmental Disabilities, 29*(6), 513-523.
- Wolf MM (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, January 21, 2012
Final Acceptance, March 20, 2013