*TEACHING CHILDREN APPROPRIATE SHOPPING
BEHAVIOR THROUGH PARENT TRAINING IN THE
SUPERMARKET SETTING¹*

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The shopping behavior of three elementary school-age boys was analyzed and parent-child interactions assessed for one boy and his mother. Estimates of parent or consumer satisfaction with child shopping behavior were also obtained. The effects of a parent-mediated treatment package on child behavior were assessed using a multiple-baseline design. Treatment produced significant increases in appropriate shopping behavior in all three children and parents became increasingly satisfied with improved child behavior. Analysis of data for one mother also revealed that her manner of interacting with her child became more positive.

DESCRIPTORS: shopping behavior, community setting, supermarket, consumer satisfaction, methodology, multiple baseline, reinforcement, feedback, response cost, parent training, children

Much literature has suggested that children learn or acquire many important social behaviors, and that such learning can be best facilitated by providing children with repeated opportunities to exhibit the behaviors, along with instruction and feedback about their performance (Becker, 1971; Patterson, 1968). Unfortunately, this assumption seems to be neither commonly understood nor widely acknowledged by parents. Casual observation of parents has sometimes suggested that they expect their children to exhibit "naturally" or automatically behaviors that they consider appropriate.

It has been suggested that while parents often

have expectations regarding their children's behavior, they less frequently know how to encourage their children to match these expectations (Spock, 1974). Spock further suggested that parents usually become dissatisfied and frustrated when confronted with child behavior that is both inappropriate and resistant to parental attempts to alter it. These assumptions seem to persist, despite the fact that significant progress has been made within the past decade to develop a technology for training parents to foster therapeutic behavior change in their own children (Berkowitz and Graziano, 1972; Bernal, 1969; Christophersen, Arnold, Hill, and Quilitch, 1972; Patterson, Cobb, and Ray, 1973; Stuart, 1971).

Over the past 3 yr, parents referred to a Family Training Program have sought professional assistance in dealing with troublesome behavior exhibited by their children at home and in school (Christophersen, Barnard, Ford, and Wolf, 1976). Many parents also voiced concerns about inappropriate child behavior occurring in community settings, such as the supermarket. Parents reported that misbehavior in the supermarket resulted in embarrassment, frustration, raised voices, and spankings. Inability of parents

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to cope with such misbehavior led them to seek ways to manage it more effectively.

Others have reported the supermarket to be a setting where children exhibit problem behavior (Bernal, 1969; Daykin, 1970; Mira, 1970; Wahler, 1969). Informal interviews conducted by the present investigators with a nonrandom sample of 25 supermarket managers and 43 female shoppers corroborated the published reports. Respondents indicated that they often observed children misbehaving in the supermarket. They reported observing parents scolding, nagging, and otherwise having difficulty with children, and further suggested that both parents and children might benefit from specific training directed toward improving behavior in the supermarket setting.

The purpose of the present study was to assess whether parents could be instructed in the use of traditional treatment procedures to encourage two child behaviors they considered appropriate in the supermarket setting. In addition to analyzing child behavior, several important parent behaviors were systematically assessed in an effort to determine whether these behaviors would change with treatment. Taplin and Reid (Note 1) suggested that too little attention has been devoted to the systematic study of changes in parental behaviors that have historically been assumed to occur as a function of receiving behavioral treatment. To ensure maximum changes in parent and child behaviors, treatment was carried out in the setting where problem behaviors were reported to occur (*cf.* Wahler, 1969).

METHOD

Subjects

Three boys (Andy, age 6; Barney, age 6; and Marty, age 5) and their mothers participated. Families had received counselling in behavior management through the Family Training Program (Christophersen *et al.*, 1976), and had been taught to administer a home point system designed to provide children with a maximum

amount of instruction, feedback, and consequences for their behavior (Christophersen *et al.*, 1972). In each instance, participating mothers had requested assistance in teaching their children appropriate shopping behavior. Informed, voluntary consent to participate was obtained from participants as well as the supermarket managers in whose stores observation and treatment sessions were conducted.

Setting

Observation and training sessions were conducted in supermarkets where the mothers normally traded. The average duration of store visits was 15 min (range 8 to 22 min). During store visits, mothers were encouraged to use shopping carts and to progress through the store as they normally would. Mothers were free to stop or leave the cart momentarily to shop for necessary items. Children were never permitted to ride in the cart; however, they were permitted to push the cart or ride on the cart-front at the mother's discretion.

Recording

An observer accompanied the mother-child pair through the store and recorded the child's behaviors. A time-sampling procedure was utilized in which a single occurrence of proximity or product disturbance behavior was checked during each specified interval (Bijou, Peterson, and Ault, 1968). A battery operated, cassette tape recorder served as a portable audible timer (Quilitch, 1972).

Proximity to the parent. In order for mothers to interact verbally with and instruct their children within the supermarket setting, proximity was a prerequisite. Proximity was defined in terms of the child's being judged "within reach" of the parent. If the child remained close enough for the parent to be able to initiate physical contact throughout a given sampling interval, the child was scored proximate during that interval. If, at any time, the distance between parent and child precluded physical contact, the child was scored as nonproximate. A per cent measure of

proximity was obtained by summing the total number of intervals for which the child was scored proximate and dividing by the total number of intervals observed.

Product disturbance. A product disturbance was defined as occurring when the child picked up, moved, pushed, or otherwise disturbed store merchandise without verbal permission from the mother. Only responses to purchasable, displayed products (excluding those in the mother's basket) were scored. A product disturbance was scored if the child made one or more such responses during a given sampling interval. A per cent measure of the *absence* of inappropriate product disturbances was obtained by summing the number of intervals in which no product disturbances occurred, and dividing by the total number of intervals observed.

Reliability of the recording procedures was assessed by having a second observer accompany regular participants throughout a given store visit and independently record child behavior. Reliability was checked during five store visits for Andy, four for Barney, and five for Marty (total 14 checks). At least one reliability check was performed for each child during each condition (excluding followup). Occurrence reliability coefficients were computed for each child behavior by summing intervals in which both observers agreed on the occurrence of the specified behavior and dividing by the sum of intervals in which observers agreed and disagreed on the occurrence of the behavior.

Mothers' complaints. An estimate of mothers' complaints about child behavior was obtained for Barney and Marty. Parent evaluations (Christophersen *et al.*, 1976) of the presence or absence of inappropriate child behaviors were obtained. Mothers were asked to specify four or five behaviors they considered inappropriate (*e.g.*, "does not stay with me", "runs through the store"). These were listed on a parent evaluation form. At the conclusion of each store visit, the mother rated each behavior as "true" if she observed it at least once during the store visit and "false" if the behavior was not observed. A per

cent measure of the occurrence of behavioral "complaints" was computed by summing the number of behaviors rated true and dividing by the total number of behaviors rated.

Mothers' satisfaction. An estimate of mothers' satisfaction with child behavior was also obtained. At the conclusion of each store visit, mothers were asked to rate the child's "overall" behavior as being excellent, good, satisfactory, poor, or intolerable.

Mother-child interactions. To assess whether mother-child interaction patterns would change over the course of the study, mother-child verbalizations were permanently recorded for one mother-child pair. A portable cassette tape recorder was placed in Barney's mother's shopping basket during each store visit. Occurrence of the defined verbal behaviors was scored during 20-sec sampling intervals (permanently programmed onto the audio-tapes). Percentage measures of occurrence for each of the parent verbal behavior categories were then computed. Each of the mothers' verbalizations was scored as being positive, negative, or neutral. Verbalizations conveying pleasantness or satisfaction were scored as positive. Verbalizations conveying unpleasantness, irritation, annoyance, or impatience were scored as negative. All other verbalizations were scored as being neutral. In addition, if the mothers' verbalization was a comment about the child's being proximate (*e.g.*, "Barney, you're right here with me.") or failing to disturb products (*e.g.*, "Barney, you didn't touch that."), then attention to one or both of these appropriate behaviors was scored. If the mother's verbalization was a comment about the child's being nonproximate or disturbing products, then attention to these inappropriate behaviors was scored (*e.g.*, "Barney, put that down and get back here.").

Reliability of the scoring process was assessed by having a second observer independently listen to a sample of the audio-tapes and record the mother's verbalizations. Reliability was assessed for 10 audio-taped store visits (four baseline, five treatment, one followup).

Procedure

A multiple-baseline design was employed within children, across behaviors (Baer, Wolf, and Risley, 1968). For each child, treatment was sequentially introduced (first for proximity behavior and second for product disturbances) in an effort to demonstrate that changes in child behavior could be correlated with introducing treatment.

Baseline. During baseline, mothers were instructed to shop as they normally would, employing whatever techniques they customarily used to manage their children's behavior.

Treatment. The treatment package consisted primarily of token reinforcement and response-cost procedures (*cf.* Ayllon and Azrin, 1968; Kazdin, 1972).

1. Proximity. Before visiting the store, the appropriate behaviors (staying within reach of the mother) were described and modelled by the experimenter for the mother and child in the home. In the manner described by Christopherse et al. (1976) the child was given an opportunity to practise engaging in the appropriate behavior and received praise and verbal feedback about his performance. This was done in an effort to teach the children, even before taking them to the store, things they might do to ensure receiving positive feedback from parents in the form of points and verbal attention. Mothers were instructed to award one point at periodic intervals (two or three times per store aisle) when the child was within reach and to subtract two points each time they judged the child to be nonproximate. Mothers were also instructed to supplement the levying of point consequences with descriptive verbal feedback to the child about his behavior. For example, it was suggested that the mother describe the child's appropriate behavior when awarding a point for proximity (*e.g.*, "That's a point, you're right here with me.") or subtracting two points for nonproximity (*e.g.*, "That's too far ahead. I'll have to take off two."). Mothers were instructed to refrain from utilizing token consequences for

behaviors other than proximity or nonproximity.

2. Product disturbances. The appropriate behavior of not handling or disturbing store products was also discussed for each child in the home before the first training visit. Mothers were instructed to continue providing point-consequences and descriptive feedback for proximity-related behaviors and to begin using identical procedures for product disturbance behaviors. It was requested that the children receive one point at frequent intervals when not disturbing products and lose two points each time a product disturbance occurred. Mothers were again encouraged to provide their children with feedback about which child behaviors were earning or losing points. In this condition then, when behaving appropriately, children periodically received one point for being within reach of the mother, and an additional point for not disturbing products. Two points were deducted for each instance of nonproximity or product disturbance. Mother carried pencils and point cards to record points given and taken away.

At the close of each store visit, the number of points earned and lost was announced to the child. The resultant balance was then added to the child's daily home balance and was exchangeable for goods and privileges as defined by his specific home point system.

Followup. Two followup visits were conducted for each child to assess the durability of the behavioral changes achieved with the treatment package. The first followup visit for each child occurred some eight weeks after the final treatment visit for Andy, 12 weeks for Barney, and 22 weeks for Marty.

Mothers were told that these followup visits were to "see how their children were doing" while accompanying them on shopping trips. It was suggested that to control their children's shopping behavior they should use whatever techniques they had been employing before the first followup visit. For example, Andy and Marty no longer earned or lost points while shopping, as their home point systems had been discontinued. Barney continued to receive points

Fig. 1. Per cent of intervals in which Andy remained proximate and refrained from disturbing products during store visits.

for appropriate shopping behavior; however, his mother had phased them out to the degree that she awarded him a fixed amount at the end of the shopping trip.

RESULTS

Occurrence reliability for the proximity measure ranged from 73% to 100%, and averaged 95%. Occurrence reliability for product disturbances averaged 81%, and ranged from

50% to 100%. Reliability of nonoccurrence (or reliability on the absence of product disturbances) ranged from 59% to 100%, and averaged 92%.

Child behaviors. Figures 1, 2, and 3 represent records of each child's shopping behavior over consecutive store visits. Figure 1 reveals that during baseline, Andy remained proximate to his mother during an average of 75% of the intervals observed. The mean intervals during which Andy was observed to refrain from disturbing

Fig. 2. Per cent of intervals in which Barney remained proximate and refrained from disturbing products during store visits.

products during baseline was 80%. When the treatment package was introduced, levels of both appropriate behaviors increased. Andy's proximity behavior averaged 96%, and he refrained from disturbing products during an average of 99% of training intervals. Two followup store visits revealed that Andy's proximity behavior remained improved, averaging 87%. However, Andy refrained from disturbing products less than he had during treatment visits. Mean per cent intervals without product disturbances averaged only 79%.

Barney's shopping behavior is shown in Figure 2. During baseline, Barney remained prox-

imate during an average of 51% of the observed intervals. Mean per cent intervals without product disturbances averaged 85%. With treatment, the appropriate behavior of remaining proximate with his mother increased to an average of 95%. Similarly, the mean per cent intervals during which Barney refrained from disturbing products increased to 96%. Followup data showed that the levels of both appropriate behaviors were maintained. Mean per cent proximity was 88% and mean per cent intervals without product disturbances was 97%.

Similar changes were noted in Marty's shopping behavior (Figure 3). During baseline,

Fig. 3. Per cent of intervals in which Marty remained proximate and refrained from disturbing products during store visits.

Marty's proximity behavior averaged 65% and the mean per cent of intervals without product disturbances was 75%. With treatment, proximity behavior increased to an average of 95%. Marty also increasingly refrained from disturbing products during treatment. Mean per cent intervals without product disturbances was 95%. During followup store visits, Marty's proximity behavior averaged 91% and mean per cent intervals without product disturbances was 97%.

Close inspection of the product disturbance baseline for each of the three children suggests that experimental induction occurred. That is, the introduction of treatment for proximity in-

creased levels of the untreated product disturbance baseline. This effect was especially notable for Barney (see Figure 2, lower record). Despite these induction effects, treatment for product disturbances further increased the amount of time in which children refrained from disturbing products.

Consumer satisfaction. Treatment had the effect of decreasing mothers' complaints about child shopping behaviors. For example, Barney's mother rated an average of 78% of his objectionable behaviors as having occurred during baseline. After treatment, she rated only 24% of these behaviors as occurring. Only 13% were rated as occurring at followup. Similarly,

Marty's mother rated 50% of her complaints about Marty's behavior as having occurred during baseline. This level of complaints was reduced to 21% during treatment and 13% at follow-up.

Mothers' overall satisfaction with child shopping behavior was observed to increase significantly with treatment. During three of the five baseline shopping visits, Barney's mother rated his overall behavior as poor. Of the 18 visits after treatment was introduced, Barney received satisfaction ratings of good or excellent for 15 visits. A similar increase in mother satisfaction ratings was observed for Marty's mother. Marty received only one overall satisfaction rating of good or excellent during his three baseline shopping visits. Following treatment, however, Marty received good or excellent ratings during 11 of his 17 (65%) shopping visits.

Mother-child interactions. Several characteristics of mother-child verbalizations were analyzed from audio-tapes of shopping trips for Barney and his mother. Independent observers agreed 96% of the time about the occurrence of the mother verbalizing or talking during sampling intervals. The reliability of categorizing the quality of the mothers' talk averaged 95% (positive), 91% (neutral), and 73% (negative). Agreement on the occurrence of talk focusing on or directed toward appropriate proximity behavior averaged 91%, and 100% for talk directed toward refraining from product disturbance behavior. Per cent agreement averaged 88% for talk directed toward inappropriate non-proximity behaviors, and 57% for occurrences of talk directed toward inappropriate product disturbance.

Data regarding the quality of Barney's mother's talk are presented in Figure 4. During baseline, an average of 8% of mother's talk was rated positive and 33% was rated negative. During treatment, positive talk increased to 66%, and negative talk decreased to 7%. At followup, positive talk declined to a level of 28%; however, negative talk was reduced to zero. Only small changes were observed in the amount of

neutral talk exhibited over consecutive store visits.

The distribution of maternal talk to child shopping behavior is seen in Figure 5. The upper two records show that no talk was directed toward Barney's appropriate shopping behaviors during baseline. Treatment resulted in transitory increases in this kind of maternal talk. Talk directed toward proximity increased to an average of 21%, and talk directed toward the absence of product disturbances increased to 11%. Increases in talk directed toward appropriate behavior were not maintained during followup.

Fig. 4. The quality of Barney's mother's verbal attention to his shopping behaviors over consecutive store visits. Upper record shows per cent of verbal attention rated positive. Middle record shows per cent of verbal attention rated neutral. Lower record shows per cent of verbal attention rated negative.

Fig. 5. The distribution of Barney's mother's verbal attention to shopping behaviors over consecutive store visits. Upper two records show per cent intervals with attention to appropriate child behaviors (proximity and refraining from product disturbances). Lower two records show per cent intervals with attention to inappropriate child behaviors (nonproximity and product disturbances).

The lower two records of Figure 5 show maternal talk directed toward Barney's inappropriate shopping behavior. During baseline, an average of 41% of talk was devoted to nonproximity behavior and 5% was devoted to product disturbance behavior. Treatment decreased talk directed toward nonproximity (to 5%); however, no changes were observed in the amount of talk directed toward product disturbance behaviors (5%). During followup,

talk directed toward nonproximity increased to 21%, and talk directed toward product disturbances decreased to zero.

Changes in the quality and direction of talk by Barney's mother did not appear to be related to changes in the overall amount of her talk. During baseline, she talked during an average of 78% of the shopping trips. During treatment, talk continued to be exhibited at about the same level (82%). Talk during followup

shopping trips decreased slightly and averaged 61%.

DISCUSSION

These data demonstrated that two appropriate child behaviors were encouraged by instructing parents to apply token reinforcement and response-cost procedures. Equally important, the consumer satisfaction measures indicated that two mothers became increasingly satisfied with the changes they encouraged in their children's behavior. Before treatment, mothers were sufficiently dissatisfied with child shopping behavior that they became irritated with, yelled at, and occasionally spanked their children.

It appeared as though, as Spock (1974) had suggested, that these parents had expectations about child shopping behavior, but became frustrated when children failed to behave in the expected manner and when "commonsense" parenting procedures were ineffective in fostering more appropriate child behavior.

With treatment, parents were helped to identify and define those behaviors they wished their children to exhibit, and were instructed effectively to utilize simple, practical child-management techniques that have appeared in the literature many times (Christophersen *et al.*, 1976). This resulted in increased parent satisfaction (and probably less frustration) with child behavior, and for the one mother studied, a more positive parent-child interaction. Parents were thus assisted in acquiring parenting skills that were more positive and that could be effectively utilized to encourage children to behave in a fashion more congruent with parental expectations.

The consumer satisfaction measures served an additional function. Actuarial data as to the degree to which elementary-age children behave appropriately while shopping have not been available. Thus, it was difficult to determine whether the treatment procedures were successful in fostering more normal levels of these child behaviors. That mothers' satisfaction rat-

ings improved with treatment suggested that the observed changes in child behavior were improvements, despite the lack of any normative standards of inappropriate child shopping behavior.

Important changes were observed in the quality and quantity of one mother's verbal attention. These data suggested that the short-term treatment program produced beneficial changes in her style of interaction with her child. Taplin and Reid (Note 1) suggested that too little attention has been devoted to the systematic study of changes in parental consequence behavior, which has been assumed to occur as a function of behavioral, parent-mediated intervention programs. The parent-child interaction data reported here might be viewed as a reliable first step in demonstrating that parent training programs do, indeed, produce changes in the magnitude and topography of parenting behaviors.

When confronted with parents who wish their children to learn appropriate behavior, or stop exhibiting misbehavior, the behavior therapist might best address these problems in the settings where they occur. Parents who participated in this study had received in-home instruction in the application of behavior-management techniques. Despite this instruction and successful in-home application (*cf.* Christophersen *et al.*, 1976), child behavior in community settings did not improve, nor did parents readily adapt similar management procedures for use in community settings. These findings seemed to confirm early reports that therapeutic changes in child behavior are often situation-specific (Wahler, 1969). They may also suggest that newly acquired skills of parent mediators are situation-specific and generalizable to non-treatment situations with minimal supervised practice. Because parents had received in-home instruction in behavior management before actually working with their children in the supermarket setting, questions regarding the external validity of the obtained results might be raised (Campbell and Stanley, 1963). It would seem likely that many parents could be taught to use

these or similar procedures without prior home training.

One final advantage of working in problematic naturalistic settings has been suggested. Kazdin (1975) reported that successful applications of behavioral treatment techniques in natural settings have been infrequent in the applied behavior analysis literature, and that the recent trend in this direction represents an exciting new focus of applied behavior research. Continued applications in "real-world" settings would seem to be a prerequisite to disseminating a technology of therapeutic behavior change for children.

Generally, the present results suggest that the behavior therapist can instruct parents to utilize child management procedures and that such use may result in improved child behavior, increased parent satisfaction, and more positive parent-child interactions.

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