*A PARENT ADVICE PACKAGE FOR FAMILY SHOPPING TRIPS:
DEVELOPMENT AND EVALUATION¹*

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This article reports on the primary steps in the development of parent advice for popular dissemination: (a) developing advice for one specific problem situation, family shopping trips; (b) testing the advice program for benefit to children and convenience to adults; and (c) packaging the advice so it can be used successfully by interested parents. Systematic observation of 12 families using the written advice package on shopping trips revealed its effectiveness in reducing child disruptions and increasing positive interactions between parents and children. These findings, along with interview information from families, showed that the package is usable, effective, and popular with both parents and children, and thus is ready for dissemination to a wide audience of parents—a step that in itself should involve research and evaluation.

DESCRIPTORS: social behavior, shopping behavior, instruction, evaluation, facilitation, language, money, response cost, conversational skill, community setting, consumer behavior, consumer satisfaction, parents, children

The often ephemeral nature of improvements in child behavior brought about in clinical settings has prompted applied behavior analysts to suggest reprogramming the environment in which the behavior naturally occurs (Hawkins, Peterson, Schweid, and Bijou, 1966; Patterson, McNeal, Hawkins, and Phelps, 1967; Tharp and Wetzel, 1969; Wahler, 1969*a, b*). Thus parents, when trained at home in the use of techniques such as differential reinforcement and timeout, have proven to be adroit modifiers of such child behavior problems as aggression (Zeilberger, Sampen, and Sloan, 1968), isolate play (Patterson *et al.*, 1967), and enuresis

(Nordquist, 1971). Unfortunately, such interventions usually involve costly professional investments, although one successful parent training program required a relatively small amount of professional time (10 hr) to train cooperative

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parents (Christophersen, Arnold, Hill, and Quilitch, 1972).

Some behavioral programs have attempted to eliminate the cost of intervention with individual parents by publishing child-rearing texts, which provide introductions to behavioral principles and examples of their application (*e.g.*, Becker, 1971; Brockway, 1974; Patterson, 1971). The effectiveness of such texts for independent use by parents has not been evaluated but may be questionable in that parents are often asked to change their philosophy of child-rearing or even their conception of human behavior. Also, such texts generally provide non-specific advice (*cf.* Azrin and Fox [1974] for a promising recent exception).

Specific child-rearing advice focusing on a problem time and place in the daily life of most families—such as dining out or getting ready for school—might be more readily used by parents than professional intervention, and may be more effective than general conceptualizations or even advice about specific behaviors that occur in unpredictable contexts (Risley, Clark, and Cataldo, 1976). However, for popular dissemination, such advice “packages” need to be evaluated more thoroughly than procedures disseminated through professionals to ensure that (a) the content of the advice is not only beneficial to parents by reducing children’s misbehavior, but clearly beneficial to the children by increasing pleasant and constructive parent-child interactions; and (b) the advice as presented would be understood, followed, and not misused by parents.

A model for the development of child-rearing advice for dissemination directly to parents would entail several research and evaluation steps. First, the relevant population would be canvassed to determine the extent of the dilemma and degree of interest in obtaining a solution. Next, a tentative solution would be proposed and an experimental analysis of its major procedural components conducted to ensure the importance and appropriateness of each in effecting an overall behavior improvement.

Then, the procedural components would be described, packaged in an easily communicated format, and tested further to determine the communicability of the advice to the target population. Finally, marketing research would be needed to determine and evaluate the dissemination procedure and resultant effectiveness and consumer satisfaction (*cf.* Risley, 1975).

This article reports on the use of the above model to develop and evaluate an advice package designed to help parents improve family shopping trips. While shopping offers many opportunities for constructive and educational family interactions, parents rarely seem to use them. Indeed, many family shopping trips occasion a high level of inappropriate child behavior and an equally high rate of apparently ineffective parental coercion.

Although much of children’s inappropriate behavior in stores is relatively mild, the effect of several children on parents, other shoppers, and store personnel may be overwhelming. Informal observations of parents in stores suggested that many parents and shoppers might find shopping trips aversive because of children’s behavior in stores. To evaluate the extent of the problem, a survey of adult shoppers (both with and without children) and store personnel was conducted at a large shopping center in a midwestern city (population 70,000). When persons were asked: “What sort of things do you see as problems when elementary school-aged children go shopping with their parents?”, more than four of five shoppers ($N = 66$) and store personnel ($N = 13$) responded by naming one or more problems.

Of the 112 problems named by respondents, 79% would be solved if the family members followed these guidelines: (a) stayed within conversational distance of one another so children could be involved in the shopping trip and would not get lost; (b) avoided touching (and potentially damaging) merchandise unless they planned to purchase it; (c) avoided distracting people with such comments as, “Will you buy me a doll?” or “I want to go to the candy

store"; (d) refrained from such roughhousing as fighting, running, and yelling so that other shoppers would not be distracted or injured; and (e) conversed about things for which the parents were shopping (*e.g.*, where it could be found in the store, which item was a better buy) so the children would not be bored and could learn appropriate shopping practices. Both store personnel and shoppers named problems in each of these categories.

A second survey was conducted to obtain a description of some typical family practices with regard to allowances and shopping, which may be important in developing advice to be used on shopping trips (children's weekly allowance, special allowances given on shopping trips, and opportunities for children to do their own shopping). Twenty-five parents with a total of 33 children aged 5 to 12 yr were surveyed. These parents began giving allowances to children around age 7 yr, although there was considerable individual variation. Once children begin receiving an allowance, they usually receive at least 50¢. Eighty-one per cent of the parents said that they allowed their children to spend money on shopping trips, and 76% of the parents said they would be interested in advice to make shopping trips more fun and educational for their family.

EXPERIMENT I: DEVELOPING SHOPPING PROCEDURES TO BENEFIT PARENTS AND CHILDREN

Based on the survey information and preliminary pilot work, procedures were integrated into a program that would develop and maintain children's courteous behavior and enhance family interactions on shopping trips. The program had two components: (a) a management component that consisted of a response-cost system in which each child was allotted a 50¢ allowance at the outset of the shopping trip, and each time a child violated a guideline (*i.e.*, made a distracting comment or engaged in a distracting

behavior), the parent withheld a nickel from that child's shopping allowance; (b) an enhancement component, in which parents were instructed to prompt and encourage interesting conversation about shopping and other topics to involve the children in this family activity. Experiment I provided a component analysis of the contribution of the management and enhancement components and determined the effectiveness of the procedures in solving the behavior problems common to family shopping trips.

METHOD

Subjects and Setting

Two "families" from the group home program for dependent-neglected children at the Johnny Cake Child Study Center in Mansfield, Arkansas, assisted in this study. Each family consisted of a parent being trained as a teaching-parent (*cf.* Phillips, Phillips, Fixen, and Wolf, 1974) and three children, two boys and a girl. The range in ages for the children in the "Smith" family was 7.7 to 10.3 yr and in the "Jones" family, 9.5 to 10.8 yr.

Observations were made in four stores in a shopping center: two department stores, a drugstore, and a "dime" store. During each shopping trip, the parent shopped in two stores; these were alternated so that the family would, for example, shop in one department store and the dime store on one trip and the other department store and the drugstore on their next trip. Parents shopped in each store for 16 min and bought or shopped for items on a list prepared for them. After parents had shopped in both stores for a total of 32 min, the children were allowed 10 min for their own shopping and could spend allowance money they were given on the trip. Each family went shopping every other weekday.

Procedure

Three conditions—baseline, management, and management plus enhancement—were analyzed in a multiple-baseline design across

families. The procedures for each condition were communicated to the parents in written instructions.

Baseline. On the way to the shopping center, the parent briefly described to the children four guidelines for good shopping: (1) stay close enough to reach out our arms and touch hands—this means we will be close enough to talk to one another; (2) do not touch things for sale in the store or things like cash registers, candy machines, or mannequins; (3) I have a lot of errands to do, so please do not distract me by saying, "I want to go to the candy store", or "Buy me one of those", or by tattling on other children; and (4) please do not roughhouse, run, yell, fight, or hang on other children in the store because this will slow up our shopping and bother other people in the store. After parents described the guidelines, they asked each child to repeat an abbreviated version of them, and prompted when necessary. Also, on the way to the shopping center the children were told that they would each have 50¢ of their allowance to spend during "their" 10 min shopping at the end of the trip.

While in the stores, the parent followed a normal shopping routine, *e.g.*, looking for items on a shopping list, comparing costs, and purchasing some items. The parent was instructed to consequence the children's inappropriate behavior as other parents might (*e.g.*, by asking or telling them to behave appropriately or by threatening them if they were bad) and were also instructed not to spank or physically coerce the children. It was informally observed that parents shopping with their children generally talk to them very little, aside from the coercive comments employed to control the children. Hence, the parent was asked to initiate as little conversation as possible but to respond to the children's appropriate questions and statements. After the parent was finished shopping, the children were allowed to shop and spend their allowance.

Management condition. On the way to the shopping center, the parent described the guide-

lines for good shopping and had each child repeat the guidelines, as in baseline. In addition, the children were told that 50¢ of their allowance was still available to spend at the end of the trip if they followed the guidelines. However, any time a child did not follow a guideline, the parent would hold back 5¢ of that child's allowance to be spent another time, and the child would have only 45¢ to spend that day. If the child failed to follow the guidelines again, then the parent would hold back another 5¢. Money withheld on one trip could be spent during the next trip if the child qualified as a "good shopper" by having only one or two nickels deducted for inappropriate behavior. For example, if on the first trip under this condition a child had 10¢ withheld, then 40¢ could be spent. If on the next trip 5¢ was withheld, then 45¢ could be spent plus the 10¢ withheld on the previous trip, a total of 55¢. However, if 15¢ was withheld on the second trip, then the child would not qualify as a good shopper and could spend only that day's 35¢.

While in the stores, the parent shopped for the items on the list and again talked to the children as necessary, but did little to initiate general conversation. If a child did not follow the guidelines, the parent would say: "We'll have to postpone a nickel of your allowance for touching the sunglasses", and put a mark down beside the child's name on the shopping list. If a child lost all 50¢, then the parent ignored inappropriate behavior.

After the parent finished shopping in both stores, each child was told how much money could be spent, and the children were allowed 10 min to shop.

Management plus enhancement condition. As in the previous condition, the parent reviewed the management guidelines for good shopping with the children on the way to the store. The parent continued to shop and consequence inappropriate behavior in a manner identical to the management condition. In addition, however, the parent was instructed to talk to the children about the shopping they were doing

in the store. For example, if a parent was shopping for a potholder, the children might be asked where a potholder could be found. If the children said, "Over there", or "In the housewares department", their advice might be taken. If they did not know, then the parent might suggest where to look. While walking through the store, the parent might ask what other things the housewares department sells or talk about interesting merchandise they passed. When they found the potholders, the parent might promote conversation regarding comparative quality and price between brands. After parents finished shopping in both stores they told the children how much money each could spend. Then, the children were allowed to shop.

Measurement

Children's distracting behavior. As the family shopped, two observers followed them at a distance of 1.5 to 3 m and independently recorded distracting behavior, which was defined in three categories: distance, touching, and roughhousing. A child was recorded as being out of distance if a hand could not be extended to touch either the shopping cart, the extended hand of the parent, or the extended hand of another child who could touch the shopping cart or the parent's extended hand. A child was recorded as touching if any hand contact was made with display racks, mannequins, cash registers, or merchandise other than the products the parent was shopping for or had given explicit permission to touch. Roughhousing was recorded if a child jumped, yelled, pushed, pulled, ran, hopped, danced, crawled, fought, or physically contacted another child in any way other than holding the child's hand.

To record these behaviors one observer carried a tape recorder and both observers carried recording sheets attached to their clipboards. A single tape was played through earphones to both observers, with a voice repeating the words, "touching, distance, roughhousing"; "touching, distance, roughhousing", at the rate of one word every 5 sec. At each word, the observers looked

at the family for an instant, counted the number of children engaging in behavior that would be classified in that category, and scored the number on the data sheet.

The data on these measures are presented as the per cent of the 15-sec intervals in which any kind of distracting behavior occurred, computed by dividing the total number of intervals in which distracting behavior occurred by the total number of intervals observed during the session and multiplying the result by 100.

The parent wore a small tape recorder and microphone to record the family's verbal interactions in five categories of verbal behavior: distracting comments from children, social and educational comments from children, teaching comments from parents, coercive comments from parents, and program consequences from parents.

Children's distracting comments. This category included arguing, threatening, cursing, name calling, tattling, requesting the parent to buy or get things in the store other than the product being sought, requesting to leave the immediate vicinity, and repeatedly calling the parent's name (twice within 3 sec or once without a following comment within 3 sec).

Children's social and educational comments. This category included participating (talking) in a conversation that evolved from a shopping topic and asking or giving information about things in the store, on the shopping list, or adult shopping behavior.

Parents' teaching comments. This category included participation in a conversation that evolved from a shopping topic and asking or giving information about things in the store, on the shopping list, or adult shopping behavior.

Parents' coercive comments. This category included threats, warnings, reminders to behave, references to a child's inappropriate behavior, negative responses to distracting comments, repeating a direction within 3 sec, and calling a child's name repeatedly (twice within 3 sec or once without a following comment within 3 sec).

Table 1
Interobserver Agreement for Experiment I

	<i>Smith Family</i>			<i>Jones Family</i>		
	<i>Baseline</i>	<i>Management Condition</i>	<i>Management Plus Enhancement Condition</i>	<i>Baseline</i>	<i>Management Condition</i>	<i>Management plus Enhancement Condition</i>
Child distracting behaviors	88%	94%	100%	85%	94%	98%
Child distracting comments	69%	80%	53%	64%	78%	51%
Child social and educational comments	74%	76%	92%	70%	61%	90%
Parent teaching comments	63%	78%	95%	64%	68%	94%
Parent coercive comments	90%	67%	25%	90%	58%	70%
Parent program consequences	100%	90%	100%	100%	95%	96%

Program consequences. This category was defined as the parent's verbally specifying that a nickel was being postponed, and why.

To score these verbal behaviors, the two observers listened simultaneously to the tape recorded in the store and to a timing tape that emitted a signal every 15 sec; they scored on a data sheet any of the five categories of verbal behavior that occurred during each 15-sec interval.

Interobserver agreement. Percentages of interobserver agreement during each experimental condition are presented in Table 1 for each behavior across each family. Interobserver agreement for distracting behavior was calculated by dividing the number of intervals of agreement by the total number of intervals observed. An interval of agreement required that both observers had scored at least one distracting behavior in the interval, or neither had scored any distracting behavior in the interval. Interobserver agreement on verbal behavior was calculated by dividing the smaller number of intervals in which a particular category of behavior was scored in each 4-min segment by the larger number of intervals in which the behavior

was scored in that segment and multiplying the result by 100 to yield a percentage. These percentages for each 4-min segment were averaged for each condition.

RESULTS

The results indicate that the management component significantly reduced distracting behavior and distracting comments but also reduced social and educational comments. However, adding the enhancement component increased social and educational comments to well above baseline levels.

Figures 1 and 2 show the behavior of the children in the two families over the 17 shopping trips of 32 min each. Figure 1 depicts the per cent of intervals in which distracting behavior occurred and the per cent of intervals in which distracting comments were made. For the Smith family, distracting behavior, which averaged 73% under baseline, dropped to an average of 5% while the management and management-plus-enhancement conditions were in effect (introduction of conditions is denoted by vertical labels). Also for the Smith family, distracting comments averaged 17% before the

management condition but only 4% after the management condition was employed, and this decrease was maintained under the management-plus-enhancement condition. For the Jones family, the average percentage of intervals in which distracting behavior and distracting comments were noted under baseline was 64% and 16% respectively, while under the management and management-plus-enhancement conditions, the occurrence of these behaviors averaged 4% and 3% respectively.

Figure 2 shows the per cent of intervals in which children made social and educational comments. For the Smith family, these comments averaged 35% during baseline, but dropped to only 6% during the management condition. When the management-plus-enhancement condition was put into effect, however, social and educational comments were made during 79% of the intervals. The Jones family shows similar results, with social and educational comments averaging 36% during baseline, 11% during the management condition, and 73% during management plus enhancement.

Parents' verbal interactions with their children were measured to assess the amount of time parents were: (a) attempting verbally to manage their children (coercive comments and program consequences); and (b) commenting to their children on the shopping or related activities (teaching comments). For both families, the parents' coercives during baseline occurred in an average of 18.0% of the 15-sec intervals. However, this was reduced to 5.0% during the management and management-plus-enhancement conditions. While these experimental conditions were in effect, the average total per cent of intervals during which the parents were verbally correcting their children in any way (coercive comments plus program consequences) was also low, only 4.4% for the management condition and 12.0% for management plus enhancement. The average per cent of intervals in which parents addressed teaching comments to their children was also dramatically higher when the enhancement component was added; for the Smith and Jones families these percentages averaged: baseline, 42.3%; management, 10.2%; management plus enhancement, 96.3%.

Fig. 1. Per cent of intervals in which the Smith and Jones children engaged in distracting behavior and distracting comments (inappropriate child behavior). Condition changes for each family are denoted by the vertical labels "Management Package" and "Management + Enhancement".

Fig. 2. Per cent of intervals in which the Smith and Jones children made social and educational comments (positive verbal interactions by children).

During the management and management-plus-enhancement conditions, a total of 90 allowances were given to children. Approximately half of the time parents held back 15¢ or less. The most frequent amount withheld was 10¢. Five times during the study, children lost their entire 50¢ allowance.

DISCUSSION

These results demonstrate that the management component effectively reduced distracting behavior and distracting comments by elementary school-aged children on family shopping trips, and that adding the enhancement component was necessary to establish a high level of positive social and educational interaction between parents and children. Also, the parents spent less time correcting their children while the program components were in use than they did under baseline, indicating that use of the management component will probably consume less of the parents' shopping time than many of the methods parents commonly use.

The management component could be considered a traditional response-cost procedure.

Used alone, this procedure had at least one deleterious side effect—namely, that the children's level of participation in the shopping trip, as measured by their social and educational comments, was significantly reduced. The rate of children's comments was then increased by a procedure that does not involve obvious consequences for behavior—having the parent talk to the children. It is likely that the parent's conversation with the children served as a prompt as well as an explicit reinforcer for appropriate verbal behavior. Moreover, the social interaction between parent and children may have functioned as a reinforcer for appropriate shopping behavior, since it would take place while children were engaged in appropriate shopping behavior but generally not immediately following inappropriate behavior.

Another approach to managing children's shopping behavior might be a positive reinforcement system, rather than a response-cost system. This approach was considered and discarded for several reasons. First, the original survey results suggested that while parents can identify inappropriate behavior, they may not be able to identify appropriate alternative re-

sponses, other than simply not engaging in the inappropriate behavior. For example, although parents were able to say that they did not like children to be touching merchandise, they appeared to have difficulty specifying what children should be doing with their hands. Furthermore, parents already have a response they use after children behave inappropriately (*i.e.*, coercive comments), and it appeared easier to teach parents to replace coercive comments with program consequences than to teach them to ignore inappropriate behavior and positively reinforce appropriate behavior in an explicit manner. In addition, previous research suggests that the two systems work equally well and that children show no preference between them (Iwata and Bailey, 1974).

EXPERIMENT II: PREPARING AN ADVICE PACKAGE FOR DISSEMINATION

Once Experiment I had shown that the management and enhancement components were effective in reducing children's inappropriate behavior and in setting the occasion for improved adult-child social interaction, these two components were integrated into a written advice package, which was then tested for effectiveness with natural families. Experimenter intervention was limited to directing parents having difficulty with implementation of the program to a particular section of the written advice package.

METHOD

Subjects and Setting

Four mothers and their children from a mid-western city were recruited through an advertisement. All were from lower-middle to middle income backgrounds. In the Mill family, there were two boys ages 6 and 8 yr; in the Hart family, two boys ages 4 and 9 yr; in the Evans family, a girl 9 yr and a boy 6 yr; and in the Burns family, a girl 8 yr and two boys 4 and 6 yr. Each mother was paid \$4 for each shopping

trip and a final bonus, approximately \$20, if she met each scheduled appointment throughout the study.

The Mill and Hart families were observed during shopping trips in a supermarket. The Evans and the Burns families were observed in four stores of a shopping mall: a drug store and three department stores.

Family Advice Package for Shopping Trips

A four-part advice package was written to describe the management and enhancement components used in Experiment I. Part I, the program text, described the appropriate use of the procedures. Part 2 was a series of three quizzes: (a) an academic test on the use of the management and enhancement components, (b) a script of a hypothetical family's conversation during a shopping trip with alternative responses, and (c) a similar script without listing the response alternatives but instead requiring the mother to write in a response representative of the suggestions in the advice package.

Part 3 of the package was an example of the shopping list form, providing: space for a shopping list, a tally for keeping track of the nickels withheld from each child, and five self-feedback Yes/No questions for the mother to answer at specific intervals during her family's shopping trips. Part 4 of the package was a simplified explanation of the shopping procedures included to assist the mother in explaining to her children how the family's shopping trips would differ from previous ones.

Procedure

The four families were grouped into two pairs: the Mill and Hart families, and the Evans and Burns families. Within each pair of families, the advice package was presented sequentially to provide two multiple-baseline analyses.

Baseline. Before each shopping trip, the primary observer compiled a shopping list and gave it to the mother. On the first shopping trip, the mothers shopping in the supermarket were told: "Shop as you and your family ordinarily

would. Find each item on the list and place it in the shopping cart. If no particular brand is specified, then simply choose one you would ordinarily buy. Please do not talk to us (observers). We will signal you at the end of 30 minutes." The mothers shopping in the mall were given similar directions: "Shop as you and your family ordinarily would. We have provided you with the money to buy certain items marked on the list. You will want to purchase these, so remove them from the shelves. For those items we have not specified for you to purchase, simply pick out the brands you would buy but leave them on the shelf." Shopping trips lasted 30 min and the primary observer signalled the mother when to stop shopping.

Advice presentation and testing. The experimenter met with each mother at her residence and gave her a copy of the written advice package. She was asked to read it carefully and was informed that the experimenter would administer some quizzes after she read it. All questions on each quiz had to be answered correctly before the mother could advance to the next quiz. For any incorrect answer on a quiz, the experimenter asked the mother to reread the pertinent section of the advice and re-answer those questions she had missed. This process was repeated until all questions were answered correctly.

Graduated practice. Four days of graduated practice occurred following the reading of and testing on the advice package. During all graduated practice shopping trips, the primary observer periodically signalled the mother to pause from shopping. She then read aloud to her children the five self-feedback questions on the shopping list form. Each child's input was briefly solicited but the mother ultimately decided whether to mark "Yes" or "No" to a question. For any question answered "No", the primary observer asked the mother to reread aloud the pertinent section of the advice before she resumed shopping.

During these graduated practice shopping trips, observations of the children's target behaviors were suspended. Instead, the observers

assessed the effectiveness with which the mother was implementing the management and enhancement components. That is, the observers recorded whether or not the mother made any comment about each product on the list while shopping for it and whether the mother managed the children as suggested in the advice. There were three ways in which the mother could manage her children inappropriately: (a) by coercing a child for violating a guideline rather than withholding a nickel, (b) by coercing a child and withholding a nickel, or (c) by withholding a nickel for an act that actually was not a guideline violation. If the mother failed to talk about each product and/or inappropriately managed the children, the primary observer asked the parent to reread the relevant section of the advice at the next pause if the parent had not already identified this section in her answers to the five questions. No data were collected during these feedback pauses. At the end of the shopping trip, the mother allowed the children to spend the allowance they had earned.

On the first and second days of graduated practice, the family shopped for only 15 min and feedback pauses occurred three times at 5-min intervals. On the third and fourth graduated practice days, the family resumed shopping for a full 30 min and feedback pauses occurred three times at 10-min intervals.²

Advice package. Shopping trips continued to be a full 30 min, but the mother was signalled to pause to answer the self-feedback questions only twice, at 15-min intervals. The observers resumed collecting data on the target behavior of the children and discontinued assessing the effectiveness with which the mother was implementing the advice. Thus, the mother was implementing the program on her own without any directions from the experimenter as to which sections to reread; rather, it was solely on the

²The authors wish to thank Sidney W. Bijou for suggesting the idea of having the families begin with short shopping trips to maximize parent and child success.

basis of her own answers that the mother reread any section of the advice package.

Followup. Following the family's last shopping trip of the advice package condition, the mother was given another copy of the advice package and 20 shopping-list forms. The mother was told to use the forms as she pleased during future shopping trips. She was informed that there would be one more observed shopping trip in two to five weeks, when she would be asked to bring materials necessary for her family to shop a full 30 min. No stipulations were made as to whether or not the advice needed to be employed during the followup shopping trips.

Immediately after the followup shopping trip, a consumer-satisfaction questionnaire was delivered to both the mother and the children. Mothers expressed their satisfaction on a scale from one to five on 13 different dimensions, while the experimenter asked seven Yes/No questions of the children (*e.g.*, Do you like to talk with your mother about things in the store? Do you want to stop earning nickels? Do you want your mother to stop talking with you in the store?).

Measurement

All target behaviors of the children—defined as in the previous experiment—were observed during the shopping trip by two observers who followed the families through the store. The primary observer carried a portable tape recorder that announced alternating 15-sec intervals. During the first 15-sec interval, observers recorded any instance of a child's social/educational comment and/or distracting comment. The second 15-sec interval was broken with coded announcements of touching, distance, and roughhousing at the rate of one every 5 sec. Recording of these three behaviors was done as in Experiment I.

The mother's verbalizations were recorded on a small cassette tape player that she wore during all conditions. The two observers later replayed the tape and scored the verbalizations in

consecutive 15-sec intervals, as described for Experiment I.

Interobserver agreement was assessed during all conditions for all families on 87% of the shopping trips. Agreement for each category of parent and child comments was calculated by dividing the number of agreements of occurrence and nonoccurrence of behaviors by the total number of intervals. Agreement between observers was also assessed for each distracting behavior and was calculated identically to those in Experiment I.

Agreement votes are presented in Table 2, where interobserver agreement scores are shown for each behavior as a grand mean for the four families of Experiment II and six families of Experiment III. Following each grand mean is the range of means for separate families.

RESULTS

The written advice package proved to be both usable and effective. Figure 3 shows the effect of the advice package on the distracting behaviors and verbal comments of the children. During baseline, before introducing the advice package, the Mill children engaged in distracting behaviors an average of 47.4% of the time. However, after introduction of the advice package and four trips of graduated practice, this average was reduced to 3.9%. During the followup shopping trip, which occurred four weeks later, distracting behaviors occurred 10% of the time, approximately one-fifth of the original baseline level. Similarly, the Hart children engaged in distracting behavior 29.8% of the time during baseline, but only 1.6% when the advice package was used and on the four-week followup shopping trip.

Similar effects were observed in the Evans and Burns families. The 28.3% average occurrence of distracting behavior initially exhibited by the Evans children was virtually eliminated during the advice package and followup conditions. These behaviors in the Burns family, initially averaging 56.2%, were reduced to about one-fourth of this level (14.9%) with the ad-

Table 2
Per cent of interobserver agreement: Grand mean across all four families of Experiment II and all six families of Experiment III. Figures within parentheses reflect the range of means for separate families.

	Experiment II			Experiment III		
	Baseline	Advice Package*	Followup	Baseline	Advice Package*	Followup
Child distracting behavior	90.6 (85.0-93.6)	96.9 (81.7-100)	95.0 (88.3-100)	87.7 (80.0-95.0)	95.4 (90.0-100)	95.8 (95.0-96.7)
Child distracting comments	91.2 (83.3-95.8)	93.0 (89.4-99.4)	93.3 (83.3-100)	89.8 (80.0-96.7)	94.3 (86.7-100)	90.5 (83.7-95.0)
Child social and educational comments	88.2 (80.5-93.6)	87.4 (85.5-96.7)	92.1 (85.0-98.3)	80.9 (70.9-88.3)	87.9 (76.7-100)	82.1 (75.0-88.3)
Parent coercive comments	93.4 (90.9-96.5)	92.8 (83.3-98.9)	96.1 (90.0-100)	94.0 (90.7-96.7)	96.7 (86.9-100)	97.5 (94.2-99.2)
Parent teaching comments	90.2 (85.5-93.6)	96.9 (92.5-99.6)	92.3 (82.5-99.2)	90.0 (87.5-96.4)	95.3 (90.8-98.3)	93.9 (91.7-98.3)

*Includes the initial four sessions of graduated practice for each family.

vice package and remained at 16.6% during followup.

Dramatic changes in the verbal behavior of the children were also effected by the mother's use of the advice package. The Mill children's distracting comments, which during baseline averaged 27.9%, were halved during the advice package condition and remained at 20% during followup. In contrast, their social/educational comments, which averaged only 16.4% during baseline, nearly quadrupled to 61.2% with use of the advice package and remained a high 53.3% during followup. The Hart children's distracting comments dropped from a 7.3% baseline level to a near-zero level during both advice and followup conditions, while the frequency of their social and educational comments increased nearly sixfold, from 14.4% to 81.0%.

The initial distracting comments average of 11.9% in the Evans family was also virtually eliminated during the advice package and followup, while the social and educational comments more than doubled, going from 35.3% to 86.2%. Similarly, for the Burns children the changes in distracting and social/educational remarks respectively were as follows: during baseline, 29.4% and 37.1%; during the advice package 9.4% and 86.6%; during followup, 6.6% and 86.7%.

The mothers' verbalizations underwent analogous changes (Figure 4). Mrs. Mill, who coerced her children in 43.3% of the intervals during baseline, reduced this to 18.3% during the advice package condition and maintained a relatively low 26.6% during followup. Conversely, her teaching comments, initially at 14.3%, jumped to 86.5% and 68.3% during advice package and followup respectively. During baseline, Mrs. Hart's coercions and teaching comments averaged 42.5% and 35.5% respectively. However, during the advice package and followup conditions, her coercions were reduced to near zero and her teaching comments averaged better than 95%.

Similar results were noted in Mmes. Evans' and Burns' verbalizations. Mrs. Evans' coercive

and teaching comments respectively were: during baseline, 29.9% and 56.2%; during the advice package 1.8% and 96.8%; and during followup 5.0% and 92.5%. Similarly, Mrs. Burns' baseline coercion level (39.8%) was reduced by almost four-fifths to 8.6% during the advice package and remained at 14.2% during followup whereas her teaching comments doubled from 45.2% to 95.2% during advice package and followup.

Figure 4 also furnishes an indication of the immediacy of the change in the mothers' verbalizations after the advice package was introduced. That is, in the four days of graduated practice that followed the mothers' reading the advice package, immediate and conspicuous changes in their verbal behavior ensued.

During each of the 16 graduated practice trips for all four families, there were three pauses during which the experimenter or the mother could request a rereading of a particular section of the advice package. Of the 48 occasions, the mother redirected herself to particular section(s) seven times, the experimenter redirected the mother 20 times, and the mother redirected herself to some section(s) and additionally the experimenter directed her to some other section(s) three times.

Under the graduated practice condition, the children averaged a shopping allowance of 34¢ and under the advice package condition, 39¢. Of the 36 shopping allowances that the children received during the four graduated practice sessions, only five were less than 15¢, and a child lost all of the allowance only once.

The mothers' responses to the questionnaires consistently indicated that use of the advice package set the occasion for more pleasurable and frequent family shopping trips, a profitable learning experience for the children, better behavior by the children, and fewer coercions from the mothers. Additionally, the mothers stated that they had been using the advice package on their own shopping trips, would very strongly recommend it to their friends, and felt it facilitated the job of teaching their children appropri-

Fig. 3. Per cent of intervals during baseline and advice conditions in which the children from four families participating in Experiment II engaged in distracting behavior (left graphs), distracting comments, and social/educational comments (right graphs). The vertical broken lines designate when the parents were given the advice program (change from baseline to advice conditions). The first four shopping trips after parents received the advice package were graduated practice sessions, during which data were collected on parent behavior and not on children's behavior. The followup shopping trip is designated by an arrow showing the number of weeks elapsed between the final shopping trip and the followup trip.

ate behavior in other situations. Noteworthy is the fact that no mother suggested that using the advice required spending more money on the children than past shopping trips. Indeed, three

mothers indicated that they spent anywhere from 30¢ to \$1.00 less per child when using the advice package; the fourth mother indicated no difference in the amount she spent on each child.

Fig. 4. Per cent of intervals during baseline and advice conditions in which parents participating in Experiment II made coercive comments and teaching comments. These data were not collected for the Mill and Hart families during the first four shopping trips of the advice condition (while graduated practice was in effect). The vertical broken lines designate when the parents were given the advice program. The followup trip is designated by an arrow with the number of elapsed weeks listed below the arrow.

The mothers' answers split on the question of whether using the advice required more effort. However, both mothers who had indicated that using the advice did require more effort suggested that this was due to having to think of things to say about the products on the shopping list. When asked whether this extra effort was worthwhile, both mothers decisively agreed that it was.

The children too were pleased with the program; that is, with behaving well, earning nickels, and talking with mother. Nearly all of the nine children interviewed indicated their satisfaction with all aspects of the program.

DISCUSSION

The results of this experiment demonstrate that mothers can, with some experimenter redirecting, use the written advice package correctly. When they do so, they are effective in reducing the frequency of both their own coercive comments and their children's inappropriate shopping behavior while concomitantly facilitating a positive interaction among the family members.

The graduated practice procedure, whereby the families, after their initial exposure to the written advice, shopped for only half the normal time, may have been critical to the procedure. The children had an extensive history of misbehaving in stores, and upon their first exposure to the contingencies, although their behavior improved, it still was not unusual for a child to lose more than half of the 50¢ shopping allowance in 15 min. Had the initial shopping trip lasted a full 30 min, a child might have lost all the 50¢ allowance and therefore would have received no reinforcer for improved behavior. Thus, the initial shorter shopping period allowed for immediate reinforcement for any improvement. The mother, too, had to demonstrate a new set of behaviors (*e.g.*, withholding nickels contingently, talking about shopping topics), and the initially brief shopping trips ensured that her newly acquired repertoire was not strained. Also, by pausing periodically to

assess the effectiveness with which the advice was being implemented, both mother and children could remind themselves of the expected set of behaviors.

Another aspect that helped to ensure success was the series of three quizzes. As mentioned, the quizzes provided the mother not only with a working knowledge of the procedures described in the advice package, but also afforded her some practice in implementing the advice before an actual shopping trip with her children.

Parents' ratings of the advice suggest that they found it was satisfactory in providing them with an effective, efficient way of teaching their children more courteous shopping behaviors and improving family interactions. The children's questionnaire responses suggest that they also were satisfied with the program and its increased parent-child conversation and contingent reinforcers.

EXPERIMENT III: VALIDATING THE ADEQUACY OF THE ADVICE PACKAGE

In the previous experiment, the advice package was shown to be effective when properly used. The remaining question was whether parents could use the package correctly on their own, with no professional intervention. Thus, Experiment III was designed to determine whether natural parents and their children could successfully implement the family advice on shopping trips without any assistance from the experimenter.

METHOD

Subjects and Setting

Six mothers and their children were recruited through an advertisement. The families were lower-middle to middle income economic status. In the Whitt family were a boy age 5 yr and two girls ages 7 and 9 yr; in the Kidd family, a boy 6 and a girl 8 yr; in the Slade family, a girl 4 and two boys 8 and 10 yr; in the Welk family, a girl 6 and a boy 9 yr; in the Wilson family,

two girls 4 and 5 yr and a boy 9 yr; in the Moss family, a girl 5 and a boy 6 yr.

As in Experiment II, each mother was paid \$4 for each shopping trip and a final bonus, approximately \$20, if she met each scheduled appointment throughout the project. The six families shopped at different times in four stores of a shopping mall.

Family Advice Package for Shopping Trips

To eliminate the need for any experimenter intervention with the parents, the written advice package of Experiment II was elaborated slightly to provide the parents more adequate instructions concerning: (a) the sequence of procedures they were to follow, (b) the amount of time they were to shop on each trip, (c) the steps involved in administering and correcting their own quizzes.³

Procedure

Baseline. The baseline condition was conducted identically to that of Experiment II.

Advice presentation and testing. During the 45 to 60 min required by the parent to read the package and complete the self quizzes, the experimenter remained at the mother's residence but in a separate room, so as to be as unobtrusive as possible. After completion and self correction of the three quizzes, the experimenter checked their accuracy. Four mothers answered all quiz questions correctly and two made one error each. Only in these two cases did the experimenter ask the mothers to reread the relevant section of the advice package and again answer the question.

³A copy of the Parent Advice Program for Family Shopping Trips employed in Experiment III is available from the National Auxiliary Publication Service (NAPS). For copies, order NAPS Document #03003 Order from ASIS/NAPS Co., c/o Microfiche Publications, 440 Park Avenue South, New York, New York 10016. Remit with order: \$3.00 for microfiche or \$14.00 for photocopies. Make checks payable to Microfiche Publications. A revised version of this advice program will be available as a paperback book in Feb., 1978: *Shopping With Children*, Academic Therapy Publications, P.O. Box 899, San Rafael, CA 94901.

This procedure was sufficient to correct these two errors.

Graduated practice: parent directed. In contrast to Experiment II, the graduated practice sessions in Experiment III were directed by the parent and involved no intervention from the experimenter. The shopping lists included in the package specified (a) length of shopping trip, (b) when the family should pause to answer the five questions, and (c) a list of merchandise to purchase or simulate purchasing.

During the first two shopping trips, the family shopped for approximately 15 min and paused every 5 min to answer the Yes/No feedback questions printed on the shopping list. On the third and fourth shopping trips, the family shopped for approximately 30 min with a pause for reviewing the questions at 15 min and at the end of the trip. The mother wore a watch to determine when to pause and when to terminate the trip. There was no experimenter intervention unless a mother terminated a shopping trip before 30 min of data collection, in which case the observer asked the mother to continue shopping for X min more.

Family shopping with advice. After the mother had read the advice package and completed four shopping trips under the graduated practice condition, she continued to go on 30-min shopping trips. During this condition, the shopping lists specified that the family answer five shopping questions at the end of the trip.

Followup. The followup shopping trips and the consumer-satisfaction questionnaire were conducted in the same manner as in Experiment II, with the exception that a second followup trip occurred at a later time with two families.

Measurement

Data collection and measurement of interobserver agreement were accomplished in an identical manner to that described for Experiment II, except that the behaviors measured were the same through all conditions (*i.e.*, there was no change in data collection under graduated practice). Interobserver agreement was

assessed during all conditions for all families. Reliability coefficients are presented in Table 2.

RESULTS

Mothers were able to implement the advice package successfully without experimenter involvement. Figure 5 shows the effect of the advice package on all behaviors measured. During the baseline condition, Mrs. Whitt used an average of 37.4% coercive comments, while 44.7% of the intervals included teaching comments. During the baseline shopping trips (one to nine), the Whitt children engaged in distracting behavior on an average of 79.4% of the intervals, made distracting comments in an average of 14.2%, and made social and educational comments 39.2% of the time. After the advice package was introduced (shopping trips 10 to 14), Mrs. Whitt increased her teaching comments to an average of 94.4% and almost eliminated her coercive comments, averaging only 3.0%. Concomitant changes were noted in the Whitt children, with distracting behavior decreasing more than 70 percentage points to an average of 7.0%, distracting comments decreasing to 2.6%, and social and educational comments increasing by a factor of almost three to an average of 86.9%. These changes were maintained five and seven weeks later during followup shopping trips.

The other five families were exposed to baseline and advice package conditions for a varied number of shopping trips. For each family, the advice package produced substantial improvements in both the parents' behavior and the behavior of the children, and these improvements were maintained several weeks later during followup shopping trips.

As in Experiment II, responses to the family satisfaction questionnaire suggested that the advice allowed a profitable learning experience for the parent and her children.

DISCUSSION

The findings from Experiment III demonstrate the usefulness of the written advice pack-

Fig. 5. Effect of the advice program on the parents' and children's behavior in six families participating in Experiment III. The parents' teaching comments and coercive comments are shown in the left graph for each family. The children's distracting behavior (middle graph), social/educational comments and distracting comments (right graph) are shown for each family. The number of shopping trips under baseline was varied for each family. The break in the data line and the open arrow on each graph designates when the parents were given the advice program. The followup shopping trips are designated by the solid arrows showing the number of weeks elapsed since the last shopping trip under the advice condition. (e.g., the Whitt family had nine shopping trips under the baseline condition; five trips following introduction of the advice package; and two followup trips—one after five weeks had elapsed and another after a total of seven weeks had elapsed. The asterisk under the one solid arrow designates the loss of the parent's verbal data on this followup trip due to difficulty with the tape recorder.)

ages for parents. The experimenter's intervention was not required for the parents to follow the advice and thereby more effectively manage their children while at the same time enhancing family interactions.

GENERAL DISCUSSION

The three experiments presented here illustrate the development of a written advice package for parents that uses behavioral principles but does not require extensive parental training or professional involvement. The advice package was developed to address a common child-rearing program—the behavior of children while shopping—and proposed a solution that included procedures that parents consider acceptable and natural (*i.e.*, the use of shopping allowances and family conversation).

The extent to which shopping with children is seen as a common child-rearing problem is exemplified by the number of specific behavior problems cited by respondents in the initial survey, and by the fact that other researchers working with families have independently identified problems of similar dimensions and magnitude on family shopping trips (Barnard, Christophersen, and Wolf, 1977). A particularly important point of departure from other studies that have reported success in altering the child-rearing practices of "average" families (Hall, Axelrod, Tyler, Grief, Jones, and Robertson, 1972; Hall, Cristler, Cranston, and Tucker, 1970) is that the improvements demonstrated here occurred without recourse to professional intervention: the improvements in parent and child behavior were accomplished through a written advice package.

The present study provides a possible model for the development, testing, and packaging of parent-advice systems for child-rearing. The advice concentrated on a circumscribed problem, time, and place. After extensive interviewing to determine some of the particulars of the problem and suggest some components of a solution, the advice program was formulated and prelim-

inary pilot work conducted. During Experiment I, the contribution of two major components was analyzed and the benefits of the procedures to both parents and children determined. With the procedures in a preliminary written advice package, Experiment II focused on determining natural parents' abilities to use the advice with their children with close supervision to identify problems with the advice package and to assist as necessary for the benefit of parents and children. Experiment III examined the adequacy of the final written advice package as a complete training device. A total of 12 families used the advice throughout the series of three experiments, and each was able to decrease parental coerciveness, improve parent-child interactions, and maximize children's courteous behaviors in a variety of stores.

The advice package served to pinpoint appropriate and inappropriate behaviors and explained to parents how to deliver the indigenous reinforcers contingent on the children's behavior in the shopping setting. The program provided the parents with a response-cost procedure that allowed the parents to correct discourteous behaviors while concurrently reinforcing appropriate behaviors through parent attention and conversation. Remarkable changes in each family's conversation then occurred simply as a result of the instructions provided by the advice package that the parent use certain stimuli (the products on the shopping list) as prompts for initiating conversation. The children eagerly reciprocated and the family appeared to become "trapped" (Baer and Wolf, Note 1) in mutually reinforcing conversations.

The data collected on the parents' and children's behavior demonstrated the effectiveness of the advice package and the durability of the behavioral changes as seen during two- and eight-week followup shopping trips. The questionnaire data collected after the followup trips suggest that the parents found the program useful, worth the effort, and cost efficient in comparison to their previous child management practices. Similarly, the children's answers to the

questionnaire suggest a very favorable response to the components of this new family shopping program. Programs designed to manage children might profit by considering the children as consumers who need not only to be well behaved, but to receive educational and social benefits from the program—and also to enjoy it.

This series of experiments illustrates an approach to the development of advice packages for training parents to manage their children's behavior more effectively and improve parent-child interactions in particular problem situations. The next step in the process is dissemination to the wide audience of parents who need and want such advice. In view of the lack of marketing research on the dissemination of psychological advice to the general public, procedures for dissemination should themselves involve empirical investigation and evaluation.

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