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An Experimental Analysis of a Program To Reduce Retail Theft

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A program for elementary school-aged youth, designed for and implemented by a retail business, was evaluated. The program included visual instructions to youth, tokens (exchangeable for special prizes) for appropriate verbal behavior, visual feedback to youth, and rewards for reducing merchandise loss, all continued to a criterion level. A 54% reduction in losses of popular youth merchandise was achieved.

Reducing theft has been approached in the context of at least two investigations (Azrin & Wesolowski, 1975; Switzer, Deal, & Bailey, 1977). Shoplifting is identified by the popular press as the most frequently committed crime in the United States. Additionally, reports of increasing losses to shoplifters each year now are said to total over 13 million dollars per day ("To Catch a Thief," 1974).

While the psychological and sociological parameters of shoplifting have been topics of research consideration, shoplifting continues to be identified as a major business and community problem with little empirical evidence that suggests effective preventive strategies. In an evaluation of publically displayed antishoplifting signs, McNees, Egli, Marshall, Schnelle, and Risley (1976) found that commonly used antishoplifting signs had little effect on shoplifting. How-

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ever, when frequently taken merchandise was identified publically by signs, shoplifting was virtually eliminated for that merchandise (McNees et al., 1976).

The social implications of retail theft are particularly noteworthy for youth. It is estimated that over 50% of all shoplifters are youth (Heinstein, 1974). More specifically, shoplifting may seriously affect the direction of youths' lives by limiting educational, employment, and professional opportunities. It would appear that effective strategies must be identified to reduce shoplifting among youths and that these strategies should minimize the expense to police departments, to the entire criminal justice system, and to businesses to the maximally feasible extent.

In the present investigation, a shoplifting prevention program was developed specifically for youth and for implementation in a local business by employees. The results of this program were evaluated in the context of reduction in youthful merchandise loss.

METHOD

Setting

The research was conducted during the school year in a convenience food market in Nashville, Tennessee (population 449,000). The market was located approximately one mile from an elementary school in a high-income area and was open 24 hours a day operating with three 8-hour shifts (one employee each shift). Merchandise was displayed in approximately 2,000 square feet of floor space on eight parallel counters. The counters (except for wall counters) were perpendicular to the check-out counter, located in the center of the store. Four counters were in full view of the cashier. Other than normal customer assistance, the only theft control procedure employed was an overhead convex mirror located in the left rear of the store.

Measurement System

Prior to the formal experimental analysis, a sampling procedure was employed to ascertain the items most frequently stolen. Over a period of 7 weeks, approximately 80 items from 22 merchandise categories were randomly selected as "key" items. Yellow, blue, green, and red gummed tags were then placed on each item next to the price tag. A code letter was marked on each tag to identify the type of merchandise (i.e., blue "J" indicated Freshen-Up Gum). The cashiers were instructed to remove the colored tags when the customers paid for the marked items and to place the removed tags in a box beside the cash register.

To determine the number of items that were missing, an observer made inventory checks in the store each day of the school week at noon. All tagged

merchandise was counted and recorded according to the color of tags and the code letters. The manager of the store then supplied the observer with the tags from the merchandise that had been sold. Thus, to calculate the number of missing items in each category, the number of items that were counted in stock for that category was added to the number sold for the category and this sum was subtracted from the number of originally tagged items.

Each day the observer tagged and placed out new items of each type of merchandise to replace those items that had been sold or taken. In this way, the total number of items tagged each day for each type of merchandise approximated consistency.

The sampling procedure allowed a determination of the types of merchandise that were frequently missing. It was found that in this particular market candy and snack cakes were the most frequently missing items. Therefore, combined theft rate for candy and snack cakes was selected as dependent measure for this investigation.

The same basic procedure that was used to identify the merchandise that was frequently missing was used in formal investigation. Merchandise in the two categories were randomly selected, tagged, and coded. The recording was accomplished in the same manner as described previously.

On 15 occasions throughout the investigation, a second recorder made independent counts with the primary observer. When both observers had finished the count, the primary observer compared the two sets of records. On each occasion, overall reliability was 100%. To insure that the cashiers were taking the colored tags from the purchased merchandise, individuals who were not known to be associated with the project bought coded merchandise and took it through the check-out procedure. On 16 occasions throughout the study that the checks were made, the cashier removed the coded tag 14 times or 88% of the time. Children of the observer made the purchases during the program phase to determine the reliability of the clerks in using the program procedures.

Base-line 1. During the initial base-line, the normal daily amount of merchandise stolen was established. Existing store security procedures remained consistent for the 6 weeks of this experimental phase.

Intervention Phase. Since all store employees agreed that elementary school-aged children had been most often suspected or caught taking the merchandise, a program was designed for these children. Before the 7th week of the investigation, a large poster was suspended above the checkout counter. The poster depicted a large shark in an ocean with a fisherman in a boat trying to hook the shark. The wording on the poster was as follows:

KIDS !!!

CAN YOU HELP STOP "JAWS" THE SHOPLIFTING SHARK?

1. Every time you buy something, you will get a shark's tooth if you remember to pay for everything.
2. When you have 5 shark's teeth, you can choose 1 surprise from Jaws' Treasure Chest.

3. The less that Jaws takes, the closer he will get to being hooked. When candy, gum, and other things are not taken very often, the fisherman will hook Jaws.
4. If you come into the store with 5 shark's teeth when Jaws is hooked, you will get a special surprise or 2 prizes from the Treasure Chest.

The cashiers were instructed to ask each elementary school-aged child who bought anything the following question: "Have you remembered to pay for everything?" If the child answered "yes," the cashier gave one cardboard index tab that resembled a shark's tooth, thanked the youth, and reminded the child to be sure to come in to get his/her prize when he/she had five shark's teeth. When a child had been in the market at least five different times and had collected five shark's teeth, the child was allowed to choose one surprise from a cardboard box that had been sprayed gold to look like a treasure chest. The chest was filled with eight different types of candy and gum provided by the business so that the child would have a choice of reinforcers. If a child came into the store with five shark's teeth during a time when the shark was hooked, he/she received either a special surprise (e.g., an icee) or two surprises from the treasure chest. Again, the child was allowed to make a choice.

The criterion for determining when the shark was hooked was derived on a weekly basis. During the base-line phase of the research an average of 32 items were stolen per week. The ocean portion of the poster was divided into five segments. On any of the five observation days per week that the total number of missing items was four or less, the shark would be moved up one-fifth of the way toward being hooked (making the weekly total 20 or less) and, thus, a decrease in number of items missing of 37.5%. If the criterion was met, the shark would stay hooked for 2 days and then be moved to the bottom of the ocean to begin the ascent again. At this point, an additional decrease in the daily number of items missing would be required for the shark to be moved toward being hooked. The adjusted criterion was set at three or less per day for the five observation days (making the weekly total 15 or less), thus resulting in an additional decrease of 25% to meet criterion for the special prize.

Base line 2. After Week 12 of the investigation, the poster was removed, and the cashiers were instructed not to give tokens to youth or ask them if they had remembered to pay for everything. During the 10 observation days of the second base-line condition, no new procedures were employed. Even though the program conditions were terminated in Base-line 2, if children returned five shark's teeth (collected during the program condition) they were given a "prize" from the Treasure Chest.

RESULTS

Figure 1 illustrates the effects of the Jaws program for youth merchandise. The time series line represents the number of items that were stolen per week for the 14 weeks of the study.

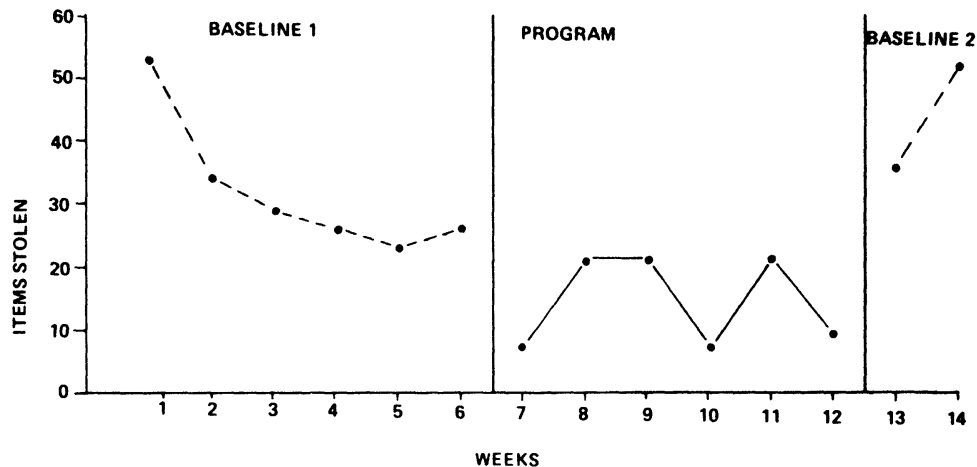


Fig. 1. Illustrates the mean number of items stolen per day.

During the initial base line an average of approximately 32 items were stolen per week. While the program was employed, the average dropped to about 15 stolen items per week. When the program was terminated, the average number of items stolen per week rose to 44. Thus, when the Jaws program was in effect, stealing of youth merchandise was 58% less than during base-line conditions.

Since exact profit margins on each type of merchandise were unavailable, a precise cost analysis was not possible. However, assuming the business marked up the wholesale price by a factor of two, store profits were increased an average of 42% during the program.

DISCUSSION

The results of the present study indicate that losses of "youthful merchandise" were substantially reduced when the Jaws program was employed. That the average daily losses fell well below the forecasted projection of Base-line 1 when the program was implemented, and that the forecast base on the program data was well below the actual loss level during Base-line 2, provided the experimental control necessary for demonstrating procedural effectiveness.

The effects of the program can perhaps be attributed to the combination of several procedures that have been demonstrated as effective behavior change strategies. That contingent reinforcement is instrumental in controlling human behavior has been extremely well documented by applied behavior analysis. Feedback as an agent for producing behavior change has also been a topic of numerous investigations (Drabman & Lahey, 1974). Hart and Risley (1974) found that nonverbal behavior in children could be controlled by simply developing a correspondence between verbal and nonverbal behavior. This latter concept was utilized in the present program by the cashiers requiring that youth say whether or not they had remembered to pay for everything and reinforcing the "appropriate" response.

The immediate rise in losses when the program was terminated presents a troublesome issue which must be attended to in future research and program development. This return to approximately base-rate levels indicates that it will perhaps be necessary to maintain a program constantly. It is also possible that, if such a program was maintained for much longer periods, the effects of the program might become less dramatic. If this latter concern proved true, perhaps a frequent change in the stimulus conditions of the program (new topics, new signs, audible instructions, etc.) would lessen the probability of habituation and would serve the necessary maintenance function. Alternatively, the reinforcer "menu" could rather easily be varied to increase the probability of continued interest in the program.

In a broader perspective, while most businesses have sufficient resources to implement a program similar to the one described here, the program may not produce similar results in different businesses with different clienteles. Thus, generalizability of the procedures also remains a task for future research.

It is also noteworthy that the merchandise targeted in the present study was inexpensive. While future research is necessary to determine the effectiveness of the procedures with more expensive merchandise, it is possible that more costly reinforcers may be necessary. If this latter hypothesis is confirmed by future research, cost analysis of the program will become increasingly important.

However, within the confines of these limitations, the Jaws program illustrates a program that was effective in reducing merchandise loss for the target merchandise. Perhaps it is this type of technological development that researchers will be expected to provide if the ever-increasing rate of shoplifting is to be curbed.

This paper also describes an example of how researchers can utilize the normally existing resources in the community to impact pervasive community problems. While such arrangements have become more frequently necessary due to increased funding limitations, it is possible that practical high-quality community programs can be most effectively developed through the utilization of such resources.

While more extensive research is needed to answer some of the programmatic questions of the present study, this program illustrates a shoplifting program for youth that utilizes the resources of the organization most directly affected — business.

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