THE REDUCTION OF STEALING IN SECOND GRADERS USING A GROUP CONTINGENCY^{1, 2}

E. BETH SWITZER, TERRENCE E. DEAL, AND JON S. BAILEY

FLORIDA STATE UNIVERSITY

Three classes of second graders served as subjects in this study of the effects of two types of intervention programs upon stealing: (1) an antistealing lecture with no specific contingency implied, and (2) a direct group contingency applied, whereby children were rewarded with (a) extra free time for no thefts, (b) allowed normal free time if stolen items were returned, and (c) punished with loss of free time if stolen items were not returned. A multiple-baseline design across the three classes showed the group contingency to be effective in reducing stealing behavior; the anti-stealing lecture was ineffective.

DESCRIPTORS: dishonest behavior, stealing, group contingency, instructions, elementary classroom, children

While a technology for the solution of many persistent and serious problems of elementary classrooms has been developed in recent years (*e.g.*, O'Leary and O'Leary, 1972; Ulrich, Stachnik, and Mabry, 1974), the study of dishonesty in its various forms (lying, cheating, and stealing) has apparently been overlooked. Although the problem has been discussed at length (Jeffrey, 1969) no well-controlled experimental studies have been conducted to suggest how the classroom teacher might cope with stealing.

A major barrier to studying stealing is detecting *bona fide* theft and determining the responsible party. Recently, Azrin and Wesolowski (1974) overcame these problems by working with subjects (severely and profoundly retarded residents of an institution) who had obvious stealing behavior. They found that an overcorrection procedure eliminated food theft (in a

commissary setting) within four days. Barton, Guess, Garcia, and Baer (1970) found that time-out reduced food theft in a similar population by 57%.

In the absence of any reliable method of dealing with stealing in elementary schools, teachers usually resort to a variety of untested techniques. The authors' experience in public schools suggests that exhortation and scolding are used by teachers to suppress or reduce dishonest behaviors. Not infrequently, this evolves into a lecture on good citizenship and the importance of being honest and trustworthy. Verbal instruction to establish clear rules and to threaten sanctions (usually the latter are ambiguous) for misbehavior has been frequently tried (Greenwald, Hops, Delquadri, and Guild, 1974; Herman and Trammontana, 1971; Madsen, Becker, and Thomas, 1968; O'Leary, Becker, Evans, and Saudargas, 1969) and usually found ineffective in changing classroom behavior significantly.

On occasion, a whole class of students may be kept after school or lose their free time because some item is missing and the individual responsible can not be detected and therefore properly punished. The latter procedure resembles in some ways a group contingency, which has been shown to be effective in reducing certain kinds

¹The authors gratefully acknowledge the cooperation of the principal of Sabal Palm Elementary School, Vernon Allen, and of the teachers involved in this research, Susan Holiday, Barbara Kerns, and Becky Avirett, and the counsellor, Mrs. Betty Sullivan. This research was reviewed and approved by the Research Advisory Board of Leon District Schools, Tallahassee, Florida, before its implementation.

²Reprints may be obtained from Jon S. Bailey, Department of Psychology, Florida State University, Tallahassee, Florida 32306.

of classroom problems. For example, Herman and Tramontana (1971) found that a group contingency reduced disruptive behavior in Head Start children during naptime. Long and Williams (1973) found a similar effect with seventh graders where group and individual contingencies were compared; group contingencies were effective in increasing appropriate classroom behavior when minutes of free time were lost for disruptive or off-task behavior. Finally, Greenwood, Hops, Desquadri, and Guild (1974) analyzed components of group contingencies. Their research suggests that rules alone result in little change in behavior, but that adding feedback can improve appropriate behavior. However, using group plus individual consequences was the most effective procedure.

The present study compared the effects of these two procedures to deter stealing in several second-grade classes. Three teachers approached the school psychologist in the early part of the academic year, complaining of stealing in their classrooms. They expressed concern that they could not discover who was responsible and were at a loss to know what steps to take.

METHOD

Subjects and Setting

Three classes of second-grade children, from one public elementary school, served as subjects. The classes averaged 26 pupils and were all in self-contained classrooms. Although teachers could not describe precisely the nature or number of items stolen each day, they did state that items (*e.g.*, money, pens, pencils, toys) were being stolen from pupils as well as teachers, and that often two to three items were noticed and/or reported missing in a single day. They further stated that they felt the problem to be greater than that reported or noticed. From the teachers' reports, stealing involved several students.

Measurement of Stealing

Under normal circumstances, the rate of stealing may vary greatly, depending on the number of items brought into the classroom by the stu-

dents and teacher each day. Drawing firm conclusions about the effectiveness of a procedure, then, might easily be confounded by a simultaneous and uncontrolled reduction in available items. The present study provided a uniform number of items (10) in each classroom, which were placed around the room daily. The objects were selected on the basis of items most frequently reported missing by the teachers and pupils and whether or not they would commonly be found in the normal classroom.

To simulate normal conditions, these items were distributed to various sites: five sites were chosen on the basis that the items used would be found at such locations. Specifically, the 10 items (listed as six for placement purposes) were: (a) five nickels—counted as one item for placement, but as five for data collection, (b) one nickel, (c) one eraser, (d) one large, brightly colored magic-marker, (e) one stick of chewing gum, and (f) one brightly colored felt-tip pen. Each item, except the nickels and gum, was available on request from the teacher. The above-mentioned items were placed two at a time, with varied pairings daily, at three of the five sites. The sites were also rotated daily (*i.e.*, ABC, BCD, DCE, DEA, *etc.*). The sites employed were very similar across classrooms: (A) on the teachers' desk, (B) on the book case adjacent to the teachers' desk, (C) near the sink and water fountain, (D) at the individual reading table, and (E) near other "resource" tables.

Response Definition and Observation

Data were gathered at 15-min intervals during each phase of the experiment by an independent observer, who also served as a teacher-aide. Each daily session was approximately 90 min in length. The observer spent five morning sessions in the classroom before the experiment, to become as unobtrusive as possible.

Reliability data were collected by another observer approximately twice a week. Observation sheets were provided with specific observation times noted, along with the number of items present at each observation interval, what specific

items were found to be missing, and the number of items returned during the "return" phase. Sixteen reliability checks in each classroom showed 100% agreement on number of items stolen.

During the "Baseline" and "Lecture" phases of the research, data taken included the number of items present, and the type of item(s) stolen. During the "Group Contingency" phase, data taken included both of the above-mentioned categories, as well as the number of items returned following the teachers "Return" statement.

Procedure

There was one experimental session, lasting from the first bell in the morning, at 8:30 a.m., until snack time, at 10:00 a.m. each day. The above-mentioned items were placed before the students entered the classroom; the data were taken at 15-min intervals beginning at 8:45 a.m. The items were each placed flat against the desk or other surface so that the number of items could be clearly and easily ascertained.

The research design employed was a multiple baseline across classrooms, including the following conditions:

Baseline. During baseline, the teachers were asked to conduct their classrooms in a normal manner and not to attempt to discover and/or punish children who had stolen the items.

Lecture intervention. During this condition, the 10 items were placed in the rooms. Standard lectures were given by the teachers involved (Classes 1 and 2), once every five days. On designated days, the teachers delivered the lecture as soon as the children had assembled in the classroom. The lecture was as follows:

"I know that you all want to be good boys and girls, and to be good boys and girls, it is important to remember that you should not take things that do not belong to you, should not tell stories that are not true, or should not take answers from others' papers."

Group contingency. During this condition, the

standard procedures for placing items were followed. In addition, the teacher made the following statement each morning, after the children had entered the classroom: "If I do not notice anything missing this morning, you will have 10 minutes of free time after you have had your snack." After this statement was made, data were collected, as usual, at 15-min intervals. At the end of the last 15-min interval, the observer discreetly signalled the teacher as to the nature and number of objects stolen. If nothing had been stolen, the teacher praised the students for not taking anything, and reminded them of their 10 minutes of free time to be received after they had finished their snack. If something had been stolen she said, "I know that _____ is missing. I am going to leave the room, if you return _____ by putting it on my desk, then you will be able to talk during snack, as usual. If _____ is not returned, then you will have to sit quietly while you eat your snack, and lay your heads down on your desks when you have finished." Following this statement, the teacher left the room for 2 or 3 min and upon re-entry surveyed the returned objects and followed through on the appropriate contingency.

Because the group contingency might result in undue social stress for one or more students by the rest of the class, measures were taken to identify such pressure. The teacher discreetly switched on a small, portable cassette tape recorder by her desk as she left the classroom. The tapes, taken on those days when items were stolen, were reviewed *only* by the experimenter and the observer. The teacher was also cautioned to watch for any negative or hostile interactions that might arise from peer pressure as a result of the contingency.

Because of the possible impact of negative peer pressure that might follow the identification of the child who had stolen from the classroom, the guidance counsellor was asked to administer a sociogram to the class before and after the group contingency phase. The sociogram examined changes in the social status of any student, and consisted of two questions: (1) "Who would

Fig. 1. The number of items stolen per day in each of the three second-grade classrooms. Open circles indicate that the stolen items were returned during the "return" phase of the group contingency.

you most enjoy playing with?"; and (2) "Who would you tell a secret to?"

RESULTS

Due to the variability in the amount of stealing, extremely long baselines were required. The number of items stolen (of the 10 placed) each day in each class can be seen in Figure 1. Class 1 averaged 1.46 items taken (60 items over 41 days) during baseline, Class 2 averaged 2.87 (135 items over 47 days), and the mean for Class 3 was 1.91 (132 items over 69 days).

When the lecture on honesty was given during Class 1, the mean number of stolen items increased to 3.36 (37 items in 11 days); a similar increase was seen for Class 2, where the mean number of items taken rose to 4.00 (48 items

over 12 days). There appeared to be a similar increase in stealing in Class 3 (see Sessions 45 through 60), even though the lecture was not given in the class and increased stealing should not be attributed to this procedure.

The group contingency immediately reduced the number of items stolen in Class 1. As shown in Figure 1 by the open circle, one item was stolen the first day, and was returned. On the second day of the contingency, one item was stolen and not returned; no stealing was observed for the remainder of the school year. The mean for this condition was 0.07 items stolen per day (two items in 26 days). The subsequent application of the group contingency to Class 2 showed a similar reduction in stealing. One item was stolen and returned on the first day; on the

second day one item was also stolen but was not returned; this was followed by 16 days without theft. In Session 68, five items were stolen and returned. Similar reductions in stealing can be seen for Class 3, where one item was taken on each of two days; neither was returned and no other instances of theft occurred in this class.

The group contingency was effective in reducing theft to such low levels that it was necessary for any given teacher to leave the class only two or three times during the study, for items to be returned. Careful review of the few resulting tapes did not reveal any negative or hostile comments by students toward one another. The sound of desks being opened and furniture being moved suggested rather than a "search" for the missing items was underway.

Similarly, the pre-post sociogram measure did not reveal any outstanding reordering of the rankings given by the children of their preferences for each other as friends. The teachers did not report any significant negative peer pressure at other times during the day.

DISCUSSION

The data suggest that a significant reduction and possible elimination of stealing behavior, in the elementary school classroom, was achieved through the use of a group contingency. The multiple-baseline design across classes, showed the lecture method to be totally ineffective, whereas the group contingency immediately decreased and eventually eliminated stealing. Interestingly, the teacher indicated that stealing of items other than those placed by the experimenter also decreased during this time. Although this does not represent hard data, it suggests some generalization of the effect, which enhances the applicability of the procedure.

The problems of theft detection, which may have hampered efforts in this area, were largely solved in the present study through the use of a standard self-contained classroom. This environment has proved to be particularly favorable for two reasons. First, the typical routine

of most elementary classrooms provides several times daily during which students are out of class. This provides opportunities to distribute and collect items used to measure the rate of theft. Second, the self-contained classroom offers an environment in which the subjects' activities are confined to a limited area, thus reducing the probability of any items being removed from the classroom, which would hamper their return.

Although there has been no previous research applying these specific behavioral techniques to stealing, the present results are consistent with research that has found the group contingency to be an effective method of controlling other types of inappropriate social behavior (Greenwood, Hops, Delquadri, and Guild, 1974).

While it is clear that the group contingency was effective in producing a change in behavior in the present study, the specific factors leading to this change cannot be readily identified. Three components were involved in the group contingency utilized in this study: (1) positive reinforcement for no thefts, (2) reinstitution of existing privileges for the return of stolen items, and (3) punishment for failure to return items. The effectiveness of the group contingency does not depend upon prior exposure to a lecture on honesty, as shown with Class 3 which received no lecture. This use of the multiple-baseline design to control for sequence effects in the application of procedures that are applied one after another appears to give the design added power.³

In a group contingency, the individual responsible for the misdeed is punished directly. Thus, while a group contingency may work by peers exerting pressure on each other not to steal, it may also work directly on individual members of the group. No group pressure appeared to be exerted during the "return" period. However, conclusive interpretation regarding the sources of control would be inappropriate, as the measurements may be insensitive to forms of group pressure manifested in gestures or responses not

³We are indebted to Dennis Carroccio for this important contribution to the research design.

readily detected in the normal classroom or that may exist outside the time segment under study. Previously cited studies that used group contingencies collected no data on the mechanism by which the contingency operated.

Study permission was requested and received from the research review committee set up by the local public schools. In addition, efforts were made (*i.e.*, use of the sociograms, tape recorder, and teacher observation) to ensure that children would not be harmed by a strong reaction to the loss of privileges. Fortunately, the data gathered suggest that no such pressure was brought to bear by these children; however, differences may be seen if a similar procedure is used with older subjects, and precautions need to be taken. Further at issue is the procedure of placing items in the classroom which might be stolen. To ensure that we were sampling an existing stealing repertoire rather than encouraging theft, items commonly found in the classroom (pens, pencils, small change, *etc.*) were used: to have used high-value items, such as small but expensive toys or dollars bills, would probably be unethical. Teachers were also told to use their normal (but apparently ineffective) method of handling theft if they saw it occur (they never reported actually seeing a child take something, and even at the end of the study were not sure who was responsible for the stealing). Finally, if placing the items in the classroom were encouraging theft, a systematic increase over time might have been expected; this was not observed, and the increase during the lecture phase was not part of any steady increase in stealing.

Several problems are involved in the direct implementation of this procedure in the normal classroom. Primarily, a reliable method of theft-detection would need to be developed, regardless of whether items are stolen from teachers or students. Teachers would need to maintain an accurate assessment of "available" teacher-owned items. Though tedious, this is probably the most effective available method, doing little to effect normal classroom procedures. Another element involved in the problem of theft-detection would

deal with the validity of thefts reported by students. Implementing this procedure might reduce the number of reports of which children are unsure. But it might also result in the children not reporting thefts for fear of negative peer pressure over loss of free time, or because free time is more important to the individual than is the missing item. In any case, a more precise method of theft detection is needed.

REFERENCES

- Azrin, N. H. and Wesolowski, M. D. Theft reversal: an over-correction procedure for eliminating stealing by retarded persons. *Journal of Applied Behavior Analysis*, 1974, 7, 577-583.
- Barton, S. S., Guess, D., Garcia, E., and Baer, D. M. Improvement of retardates' mealtime behavior by timeout procedures using multiple baseline techniques. *Journal of Applied Behavior Analysis*, 1970, 3, 77-84.
- Greenwood, C. R., Hops, H., Delquadri, J., and Guild, J. Group contingencies for group consequences in classroom management: a further analysis. *Journal of Applied Behavior Analysis*, 1974, 7, 413-426.
- Herman, S. H. and Tramontana, J. Instructions and group versus individual reinforcement in modifying disruptive group behavior. *Journal of Applied Behavior Analysis*, 1971, 4, 113-120.
- Jeffery, C. R. Crime prevention and control through environmental engineering. *Journal of the American Society of Criminology*, 1967, 7, 3.
- Long, J. D. and Williams, R. L. The comparative effectiveness of group and individually contingent free time with inner-city junior-high students. *Journal of Applied Behavior Analysis*, 1973, 6, 465-474.
- Madsen, C. H., Jr., Becker, W. C., and Thomas, D. R. Rules, praise, and ignoring: elements of elementary classroom control. *Journal of Applied Behavior Analysis*, 1968, 1, 139-150.
- O'Leary, K. D., Becker, W. C., Evans, M. B., and Saudargas, R. A. A token reinforcement program in a public school: a replication and systematic analysis. *Journal of Applied Behavior Analysis*, 1969, 2, 3-13.
- O'Leary, K. D. and O'Leary, S. G. (Eds). *Classroom management: the successful use of behavior modification*. New York: Pergamon Press, 1972.
- Ulrich, R., Stachnik, T., and Mabry, J. (Eds). *Control of human behavior: Vol. 3*. Glenview, Illinois: Scott, Foresman, 1974.

Received 25 August 1975.

(Final acceptance 28 July 1976.)