

EFFICACY AND MAINTENANCE OF AN EDUCATION PROGRAM
FOR A CONSUMER COOPERATIVE

Deborah E. Altus, Thomas M. Welsh, L. Keith Miller, and
Michael H. Merrill
University of Kansas

We examined the effects of contingency management on participation in and maintenance of an education program by new members of a student housing cooperative. With credit and fine contingencies in place, the percentage of participants completing study guides was five times higher than without the contingencies. Members continued to implement the program for 9 years without researcher involvement.

DESCRIPTORS: contingency-managed education, maintenance, consumer cooperative, education, democratic management

Consumer cooperatives are member-owned, democratically operated businesses that state, as a principle, that members should receive continuous education. Many co-ops have had difficulty in fulfilling this principle and are in need of an effective, sustainable method for educating their members to ensure democratic management (Altus & Welsh, 1991). Although the behavior-analytic literature contains accounts of effective, well-liked education programs (Buskist, Cush, & DeGrandpre, 1991), there are no reports of the long-term maintenance of these programs or recommendations for program survival. We designed a contingency-managed education program for new co-op members. Our purposes were to evaluate the effects of this program on member participation and mastery of the material and to assess maintenance of the program in the absence of researcher involvement.

METHOD: Ten new members of a 30-member university housing cooperative served as the initial participants, and 4 new members participated during the follow-up period. Sixteen to 20 established members of at least one semester's residence also lived at the co-op. The co-op used behavioral technology to promote equitable work sharing and democratic decision making (Johnson, Welsh, Miller, & Altus, 1991). Members received credits exchangeable for rent reductions for managing all aspects of the cooperative.

Dependent measures. The completion of study guides and performance on mastery tests were observed to evaluate the effectiveness of the education program. Participants were given one lesson to read each week for 14 consecutive weeks. Lessons contained information ranging from the history of the cooperative movement to local co-op rules and practices. A 10-question study guide was attached to each lesson. Study guides that were filled in and returned by the weekly deadline were judged to be complete. Study guides were also graded for accuracy. Point-by-point comparisons of independent observers' records, which were completed at least once in each condition (including follow-up), yielded 100% agreement on study-guide completion and accuracy.

A 28-question fill-in-the-blank test, with two questions taken from each of the 14 lessons, was administered four times to participants: before lessons were available (pretest), at the end of the first no-contingencies condition, at the end of the credits and fines condition, and at the end of the second no-contingencies condition (posttest). Established members were also given a mastery test during the posttest period. At the end of the follow-up condition, mastery tests were given to new and established members. Point-by-point comparisons of independent observers' records yielded a mean of 98% agreement on test performance.

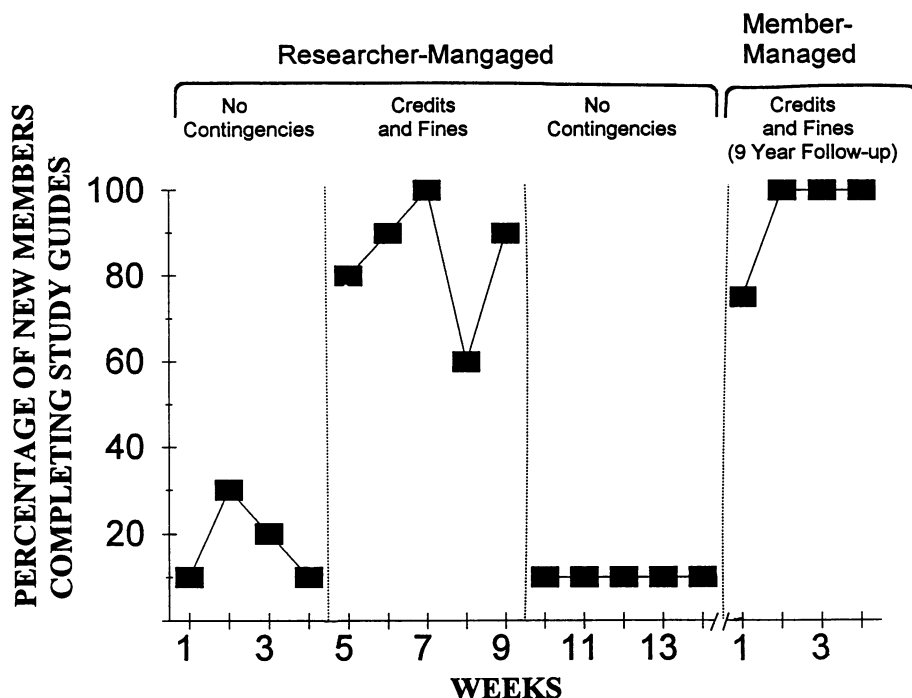
Procedure and experimental design. An ABA design was used to evaluate the effectiveness of the contingencies. During baseline, lessons and study guides were available to new members, but no performance contingencies were in place. During the intervention, members received 10 credits (a rent reduction of \$2) for completing study guides at 90% to 100% accuracy, 8 credits for 80% to 89% accuracy, and 7 credits for 70% to 79% accuracy. Members received a \$2 fine for failing to complete study guides or scoring below 70%. No contingencies were implemented for mastery test performance.

During follow-up, a member serving as the education coordinator assumed the administration of the education program by distributing lessons, grading study guides, and allocating credits and fines. The education coordinator received credits or fines based on performance audits by the resident manager, also a co-op member. Each semester, a new education coordinator (selected by the membership) was trained by his or her predecessor and the resident manager with a short job checklist and study guide. The education program was operated without lapses throughout the 9-year maintenance period, as determined by researchers who attended (without voting privileges) the co-op's weekly meetings.

Nine years after the experiment was completed, data were collected for 4 weeks on the number of new members completing study guides. There was no overlap in membership between the experimental period and the follow-up period.

RESULTS AND DISCUSSION: The figure shows the effect of credits and fines on the percentage of members completing weekly study guides. Before the application of credits and fines, a mean of 18% of members completed the study guides. Implementation of the contingencies produced an increase to a mean of 84%, and withdrawal of the contingencies resulted in a decrease to a mean of 10%. During follow-up, 3 of the 4 new members completed all four of the study guides, and the other new member completed three of the four study guides. The mean score on study guides across conditions was 95%.

Mean accuracy on mastery-test questions from study guides that were completed by new members increased from 32%



(pretest) to 67% (posttest). On questions from study guides not completed by new members, mean performance increased from 32% (pretest) to 49% (posttest). New-member performance was slightly higher than established-member performance (67% vs. 62%) on questions from study guides completed by new members, but was lower (49% vs. 65%) on questions from study guides that new members had not completed.

That the percentage of study guides completed was five times higher with credits and fines in place than without them suggests that the contingencies were effective. Improvement in mastery-test scores also suggests that the education program was effective at imparting information. New members scored slightly higher than established members on mastery-test questions taken from study guides that they had completed, suggesting that the education program accelerated new-member acquisition of material to the level of longer term residents.

Another question this study raised concerned maintenance of the education program. After 9 years, the program is still in place and is achieving similar results, despite the fact that researchers are no longer involved in its administration. Perhaps one of the reasons that members have maintained the program is that it is inexpensive and easy to manage, costing the cop only about \$5 per new member per week, including educational materials, maintenance materials, rent reductions, and management time.

The education program evaluated here represents a simple, inexpensive, and sustainable way of providing members with the tools they need to maintain a democratic setting. Indeed, as Wilson (1949) has pointed out, without an educated membership, the concept of democratic control in a consumer cooperative is meaningless.

REFERENCES

- Altus, D. E., & Welsh, T. M. (1991). Consumer cooperation as an empowerment technology: How might it be improved? *Behavior and Social Issues, 1*, 43-51.
- Buskist, W., Cush, D., & DeGrandpre, M. A. (1991). The life and times of PSI. *Journal of Behavioral Education, 1*, 215-234.
- Johnson, S. P., Welsh, T. M., Miller, L. K., & Altus, D. E. (1991). Participatory management: Maintaining staff performance in a university housing cooperative. *Journal of Applied Behavior Analysis, 24*, 119-127.
- Wilson, L. C. (1949). *A history of cooperatives in Kansas*. Topeka, KS: Kansas Cooperative Council.

This study was based on a master's thesis by the first author and was supported in part by a training grant from the National Institute of Child Health and Human Development, HD07173. We thank Mark Mathews, Donald Baer, Montrose Wolf, Alex Gikalov, Tom Zwicker, and Sunflower House members for their valuable assistance, and Commonwealth Terrace Cooperative, Falcon Heights, Minnesota, for its financial support. Send reprint requests to Deborah Altus, Department of Human Development, University of Kansas, Lawrence, Kansas 66045. Received September 21, 1992; final acceptance May 14, 1993; Action Editor, Richard A. Winnett.