JOURNAL OF APPLIED BEHAVIOR ANALYSIS 1994, 27, 423–433 NUMBER 3 (FALL 1994)

PROGRAMMING FOR SURVIVAL: A MEETING SYSTEM THAT SURVIVES 8 YEARS LATER

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Effective and useful interventions often deteriorate when researchers withdraw their direct supervision. We tested the survival of an intervention designed to produce effective weekly meetings in a student housing cooperative without direct researcher supervision. Chairperson performance, proposals completed per hour, and ratings of chairperson performance all increased when resident staff used a training manual, prompting checklist, and performance reviews. Eight years of follow-up revealed continuing high levels of meeting effectiveness. This study demonstrates a methodology for the direct observation and experimental analysis of intervention survival.

DESCRIPTORS: follow-up measures, maintenance, survival, probe, meetings

Many behavior analysts have noted with concern that behavioral interventions often deteriorate when a research project ends and the researchers withdraw their direct supervision (e.g., Farris, 1992; Foxx & Livesay, 1984; Hopkins, 1987; Schwartz & Baer, 1991; Wolf, 1982). Malott (1974) suggested that promising programs often deteriorate or disappear completely because behavior analysts tend to overlook issues of program maintenance. Considerable empirical evidence supports these concerns (e.g., Bassett & Blanchard, 1977; Bunck & Iwata, 1978; Burgio et al., 1990; Couch, Miller, Johnson, & Welsh, 1986; Halle, Baer, & Spradlin, 1981; Hazel & Krantz, 1979; Mosk, Kuehnel, Friedman, Collier, & Turley, 1988; Rollins & Thompson, 1978). Even hallmark behavioral programs such as the Token Economy at Anna State Hospital (Ayllon & Azrin, 1968) and the Paul and Lentz (1977) Social Learning ward failed to survive when the researchers left those settings (Liberman, 1980; Wolf, 1982). A methodology for analyzing intervention survival might be useful to behavior analysts who wish to design interventions that will survive beyond the withdrawal of direct researcher supervision.

The experimental analysis of intervention survival requires a method for directly observing survival. Typically, behavioral interventions are tested with researchers directly supervising the implementation of their interventions. However, for observations to provide useful measures of survival, they must be conducted under conditions similar to those that will prevail when the experiment is terminated. Specifically, efforts must be made to minimize observer and researcher reactivity (see Campbell & Stanley, 1963). Researchers have described several strategies for minimizing observer reactivity, such as observing inconspicuously (e.g., Ivancic, Reid, Iwata, Faw, & Page, 1981), minimizing interac-

This report is based on a doctoral dissertation submitted by the first author to the Department of Human Development and Family Life at the University of Kansas. The research was supported by Training Grant T32 HD07173 from the National Institute of Child Health and Human Development. We thank the members of Sunflower House and the Board of the University of Kansas Student Housing Association for their cooperation in conducting this study. We also thank Dave Born, Don Bushell, Bill Hopkins, John Lastovicka, Mont Wolf, and Mark Mathews for their helpful comments on earlier drafts of this manuscript. Finally, we thank Mike Merrill, Steve Johnson, Rob Ober, and Richard Couch for their assistance in gathering the data and Sue Young and Maria Lynn Kessler for their assistance in preparing the figure.

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tions between observers and research participants (Richman, Riordan, Reiss, Pyles, & Bailey, 1988), and not using research observations to administer differential consequences (Greene, Willis, Levy, & Bailey, 1978). Parallel strategies can be used to minimize researcher reactivity. Researchers can identify and terminate any of their behaviors that are likely to provide support for their interventions (cf. Altus, Welsh, & Miller, 1991; Rusch & Kazdin, 1981).

We will use the term *survival probe* to refer to the direct observation of the use of an intervention under conditions of minimized observer and researcher reactivity. *Survival* is the continued, effective use of an intervention by the local staff without assistance from the researchers.

In the current study, we used information gained through informal survival probes to design a meeting system capable of surviving the withdrawal of our direct supervision. Because the meeting chairperson implemented the system, the chairperson's performance was the focus of our intervention. Periodically during the design phase, we tested the procedures under survival-probe conditions. When a probe revealed a deficiency in the chairperson's performance, we added or deleted tasks, changed their sequence, or provided better rationales. We repeated this process until the meeting system operated without our direct supervision.

The primary purpose of this study was to test the effects of a survival package on the continued use of the meeting procedures by a succession of chairpersons under survival-probe conditions. The survival package included a training manual, a prompting checklist, and performance reviews. A second purpose was to determine whether survival probes could accurately predict survival over an extended follow-up period.

METHOD

Setting

The study was conducted during weekly meetings in a 30-member student housing cooperative in Lawrence, Kansas (see Miller, 1976). The meetings provided the members with a forum for solving problems and making decisions about the operation of the cooperative. The setting was staffed by members who earned points exchangeable for rent reductions (see Feallock & Miller, 1976). Fourteen residents served one-semester terms as coordinators for the various programs within the cooperative (e.g., cleaning, food, repair, finances; see Johnson, Welsh, Miller, & Altus, 1991). A resident manager trained and supervised all coordinators. Initially, the first author served as resident manager; later, the job was transferred to the third author and finally to a series of residents who had no training in behavior analysis. Meetings were held in the house lounge just before and just after dinner each Monday evening.

Participants

The participants for this study were 11 male and 9 female members of the cooperative who volunteered to serve a standard 2-or 3-week term as meeting chairperson. The chairpersons earned rent-reduction points (15% of the weekly requirement) for each meeting they chaired. During the formal experimental conditions, a new chairperson was randomly selected every 2 weeks from a list of members who had volunteered at the beginning of the semester. During follow-up, members selected themselves by signing up to train for the job; they served a 3-week term. Chairpersons ranged in age from 19 to 45 and had a variety of academic majors. The chairpersons who served during the experiment had been members of the cooperative an average of 8 months (range, 2 to 28 months) at the time they took office, and none had served as chairperson before. Any member of the cooperative was eligible to serve as meeting chairperson.

Meeting Procedure

The chairpersons were responsible for completing 126 different tasks that guided the meeting through the 12 steps outlined in Table 1. These steps were developed in collaboration with the members over a 5-year period and were designed to encourage group participation in problem solving, consensus decision making, and information sharing.

Table 1
12 Steps and Sample of Chairperson Tasks for Leading Meetings

1. *Prepare to solve problems.* Get agenda from bulletin board; Take phone off hook; Call members to meeting.
2. *Construct a list of problems.* Read issues on the agenda; call on food, cleaning, and repair coordinators to present work plans, education coordinator to present member satisfaction ratings, and treasurer to make financial report; invite members to identify related problems.
3. *Develop proposals to solve the problems.* Request volunteers to serve on committees for each problem; table issues with fewer than three volunteers; direct committees to meet separately until the dinner bell rings (approx. 45 min).
4. *Prepare to make decisions.* Repeat the tasks from Step 1 following the evening meal.
5. *Approve shared work assignments.* Conduct vote to approve work plans and changes to dinner menus; circulate work plans so members can sign up for jobs.
6. *Make announcements.* Prompt coordinators to announce outstanding workers; invite other brief announcements.
7. *Construct a list of proposals.* Solicit proposals and list titles on agenda.
8. *Propose and discuss solutions.* Call on first presenter to present proposal; moderate discussion; limit to 7 min.
9. *Vote on proposals.* Conduct vote after 7 min if all members are ready to vote, otherwise table for more discussion; repeat Steps 8 and 9 for each proposal on the list.
10. *Request more time for discussion.* Invite each presenter of a tabled proposal to state the consequences for not deciding now; conduct vote on extending for each tabled proposal; repeat Steps 8 and 9 for each proposal with 75% in favor of extending.
11. *Close the meeting.* When all proposals are resolved or tabled for a future meeting, prompt members to complete weekly duties; announce end of meeting.
12. *Complete the meeting records.* Transfer tabled issues to a new agenda and post it on the lobby bulletin board.

Table 2
Sample Section from Prompting Checklist

3. Develop proposals to solve problems (5:35)
   ___ Read complete list of issues
   ___ Request committee chair for first issue
   ___ Request at least two additional members
   ___ If less than three committee members, table
   ___ If at least three members, set committee meeting location
   ___ Repeat Steps 2 through 4 for each issue on agenda
   ___ Announce start of committee meetings and time until dinner
   ___ Post agenda on clipboard; return to bulletin board
   ___ Record time when dinner bell rings _____

Survival Package

During the development of the meeting system, the first author trained the chairpersons, prompted their performance at meetings, and provided performance feedback following meetings. Informal survival probes conducted during development of the meeting procedures revealed that many of the chairperson behaviors were not performed correctly when the first author was not supervising the chairpersons. This prompted the design of a survival package to sustain these behaviors in the absence of researcher supervision. The survival package consisted of three components that were implemented by a member of the cooperative who held the position of meeting coordinator.

Training with a manual. A 30-page manual described the chairperson's duties and provided rationales for each duty. The manual included 12 chapters corresponding to the steps outlined in Table 1. Each chapter included a set of study questions that the trainee was required to complete with a score of at least 90%. The meeting coordinator gave a written mastery test consisting of situational examples (see Mathews & Fawcett, 1977; Miller & Weaver, 1976; Welsh, Johnson, Miller, Merrill, & Altus, 1989). The questions asked the trainee to describe what he or she would do as meeting chairperson. A score of 90% or higher was also required to pass the mastery test. If any trainees had scored below 90% on either the study questions or the mastery test, they would have been required to restudy the manual before proceeding with training.

Prompting checklist. A two-page checklist prompted the chairperson's duties. Chairpersons obtained a copy of the checklist from the file cabinet in the lounge before the meeting and checked off each task as they completed it. Table 2 shows a sample of the prompting checklist.

Performance reviews. The meeting coordinator used a six-page performance checklist to record the chairperson's performance during meetings. The checklist was similar to the prompting checklist but included slightly expanded task descriptions and indications for how to observe the tasks. After each

meeting, the meeting coordinator discussed the strong and weak aspects of performance with the chairperson.

Behavioral Definitions

Chairperson's performance. The primary dependent variable was the percentage of the 126 tasks performed correctly by the chairperson each meeting. These target behaviors were designed to set the occasion for meeting behaviors appropriate to each of the 12 steps described in Table 1.

The primary observer was a member of the research and development team for the cooperative and had attended meetings for approximately 1 year prior to the start of this experiment. He played a relatively passive role in the meetings—listening to the discussion, making notes, and answering questions about his area of expertise (the meal program). The observer's records were not available to the members of the cooperative. Because the observer had other reasons for attending the meetings and because his observations did not produce differential consequences for the members of the cooperative, he was able to conduct his observations inconspicuously. Although his role as research observer was explained at the start of the experiment, informal queries at the end of the year revealed that most members had forgotten he was making research observations.

During meetings, the observer recorded whether each task was required and, if so, whether it was completed correctly. Depending on the particulars of the meeting, some target behaviors were required more than once. The percentage of the tasks completed was derived by dividing the number of tasks completed by the number required for a particular meeting. When the same task was required more than once, the number of times it was completed was divided by its opportunities to yield a ratio score. For example, if the same task was required three times and it occurred twice, it was scored as 2/3 or .67. By contrast, a task required only once during a particular meeting was scored either 0 or 1.0.

Decisions per hour. As a measure of meeting productivity, we calculated decisions per hour by dividing the number of proposals reaching closure (passed, failed, or withdrawn) by the number of hours the after-dinner portion of the meeting lasted. The before-dinner portion of the meeting was not used in this calculation because its duration was determined entirely by the time the cooks rang the dinner bell and could not be influenced by the chairperson's performance. This measure was calculated for every meeting included in the formal portion of the experiment and for 10 of the 11 follow-up observations.

Interobserver Agreement

A second observer independently recorded each chairperson's performance once during each experimental condition and twice during follow-up. The experimenter compared the observers' records item by item to assess reliability. Agreements were scored when both observers agreed that the opportunity for a particular task arose *and* that the task was or was not performed correctly. Reliability was calculated by dividing the number of agreements by the number of agreements plus disagreements and converting the proportion to a percentage. Reliability averaged 94% (range, 90% to 97%).

The information used to calculate decisions per hour was recorded by the observers on the same sheets used to record the chairperson's performance. The number of proposals recorded as complete was identical for the two observers every time a reliability observation was conducted. Records of the length of meeting time were also identical for all but two meetings. (During those two meetings, the records differed by 1 min.)

Social Validity

After the meetings, members rated the chairperson's performance on a scale from 1 (very dissatisfied) to 7 (very satisfied) to answer the question: "Overall, how satisfied are you with the chairperson's performance this week?" These ratings were collected after every meeting during the experimental conditions and for a sample of four meetings during follow-up.

Experimental Design

The entire experiment was conducted under survival-probe conditions. The researchers provided no direct supervision of the chairperson, made no procedural corrections or suggestions during meetings, and referred any requests for information regarding the meeting system to the local staff. The researchers also refrained from delivering informal consequences that might have supported the intervention (cf. Christophersen, Cataldo, Russo, & Varni, 1984). Although several researchers continued to attend meetings to pursue research and development projects in other programs within the setting, efforts were made to minimize researcher influence on the conduct of the meetings. The experimental design consisted of an ABAB reversal plus follow-up.

No survival package. In the middle of the semester prior to the initial intervention, we observed the performance of 4 chairpersons in the absence of researcher supervision. During this condition, chairpersons received a three-page job description and were referred to their immediate predecessors for training and assistance. None of the survival package components (training manual, prompting checklist, performance checklist) were available. This baseline condition lasted for 7 weeks and began during the 2nd week of the 1st chairperson's term of office.

Survival package installed. All three components of the survival package (training with the manual, prompting checklist, and observations and performance reviews by the meeting coordinator) were introduced and used during the first 4 weeks of the spring semester. Two members served as chairperson.

Survival package withdrawn. During the next 6 weeks, the survival package was removed to create conditions identical to baseline. Four members served as chairperson during this condition. The 2nd chairperson served a 1-week term due to an exam conflict, and we changed experimental conditions after the last chairperson's first meeting.

Survival package reinstalled. During the final 4 weeks of the semester, the survival package was reintroduced. Three members served as chairperson during this condition.

Follow-up. Follow-up observations were conducted under extended survival-probe conditions during the next 8 years. The observation dates were selected to sample a range of months. Although the meeting procedures were held constant during the formal experimental conditions, they were permitted to change in response to the wishes of the members and the evolving needs of the program during the follow-up period. For example, during the first summer, before any of follow-up observations were made, members voted to extend the chairperson's term of office from 2 weeks to 3 weeks. During the next summer (after Week 79), we shortened the training manual by one third to reduce training time. At this same point, the meeting coordinator began to use a copy of the chairperson checklist instead of the separate performance checklist to observe the chairperson's performance. This eliminated the need to maintain a separate document. Except for these minor procedural changes, the chairperson's routine remained unchanged throughout follow-up.

During follow-up, more than 300 meetings were held, and more than 100 members served as chairperson. Ten members served as meeting coordinator, and 6 served as resident manager (the trainer and supervisor of the meeting coordinator).

RESULTS

Figure 1 shows the percentage of tasks completed by the chairpersons during the four experimental conditions and follow-up. During baseline, a mean of 75% of the tasks was completed. When the survival package was first introduced, performance increased to a mean of 92%. When the package was removed, performance decreased to a mean of 70%; when it was reinstated, performance increased to a mean of 93%. Performance during the 8-year follow-up averaged 94%. Performance was consistently higher when the survival package was in effect, with no overlap in the levels of performance across experimental conditions.

The effects on meeting productivity are shown

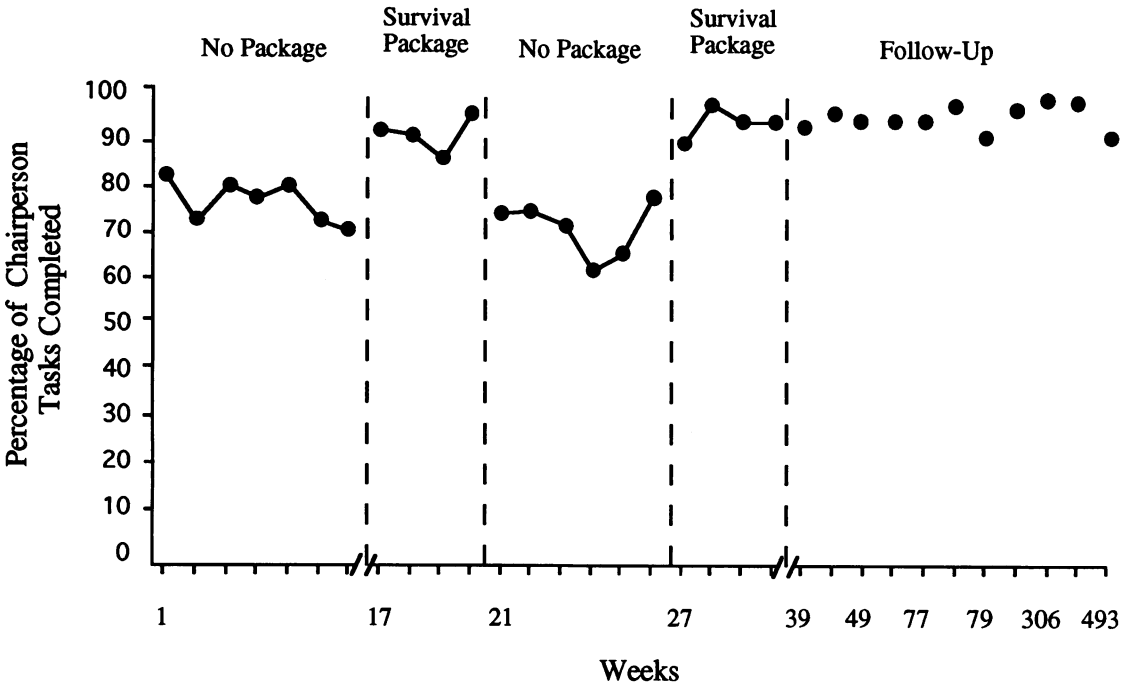

Figure 1. The percentage of chairperson tasks performed correctly across four experimental conditions and 8 years of follow-up.

by changes in the number of proposals completed per hour. The number of proposals reaching closure averaged 3.8 per hour during baseline, 5.2 when the survival package was first introduced, 5.3 when it was withdrawn, 7.7 when it was reinstated, and 6.8 during follow-up. The mean number of proposals completed increased by more than one proposal per hour each time the survival package was introduced. Productivity during follow-up was 75% higher than during baseline. This meant that members were able to complete a comparable amount of work in about 30 min less meeting time.

Ratings of the chairperson's performance (7-point scale) averaged 5.6 during baseline, 6.3 during the first survival package condition, 5.1 when the survival package was withdrawn, 6.2 when it was reinstated, and 6.7 during the follow-up samples.

Intervention implementation. Chairpersons were observed to use the prompting checklist during 100% of experimental and follow-up observations. In addition, the meeting coordinator implemented training with the manual and performance feedback during all of the experimental observations. To minimize the possibility of observer and researcher reactivity, we did not formally observe use of the training and feedback components during follow-up. Casual observations and written and oral reports by the local staff indicated that both components were used routinely throughout follow-up.

DISCUSSION

The experimental analysis shows that the meeting procedures did survive when the survival package was used. High levels of chairperson performance, meeting productivity, and member satisfaction were attained without direct supervision by the researchers. In addition, the follow-up results show that all three measures of meeting effectiveness remained high across a succession of chairpersons that spanned 8 years. Demonstrating the continuing survival of a behavioral intervention over such a long period of time is uncommon in our field.

The results of this study are particularly interesting in light of high rates of staff turnover, a suspected threat to intervention survival (see Parsons, Cash, & Reid, 1989). During follow-up, every staff position related to the operation of the meetings changed hands several times. In addition to high turnover of chairpersons and coordinators, 6 different members served as resident manager (the staff member who supervised the meeting coordinator's work). The fidelity of the meeting system, despite this turnover, suggests that it was the continued use of the meeting technology (and not the simple maintenance of any single staff member's behavior) that produced the high and durable measures of meeting effectiveness.

These results would be less interesting if they could be explained by reactivity to the actions of the observer or researchers (Campbell & Stanley, 1963). Several facts suggest, however, that reactivity cannot account for the results. First, the chairperson's performance decreased to baseline levels during withdrawal of the survival package, even though the research observations continued and the researchers continued to attend the meetings. Second, because the observer and researchers had other reasons for attending meetings, their presence was not special. This made it possible for the observer to conduct observations inconspicuously. Third, the activities of the observer and researchers did not produce differential consequences for the members. Finally, we included formal training, conspicuous observations, and performance feedback as continuing components of the intervention. These programmatic components, all of which were implemented by members of the cooperative, were designed to replace supervisory activities that are commonly provided by researchers. The use of this approach in several programs in this setting has permitted a decrease in overall researcher involvement from approximately 60 researcher hours per week before the study began to less than 5 hours per week at the end of follow-up. The fact that meeting effectiveness varied with use of the survival package but not with changes in researcher involvement suggests that reactivity cannot explain the results. Other researchers have reported success in minimizing reactivity with similar approaches (e.g., Greene et al., 1978; Ivancic et al., 1981; Sanders & Glynn, 1981).

However, because several researchers attended meetings regularly, it is possible that they influenced the use of the meeting procedures through mechanisms of which we are not aware. The only conclusive way to rule out this possibility is to eliminate all researcher contact. Because this setting is the site of research and development in several other areas, it was not feasible to terminate all researcher involvement. We did, however, approximate complete withdrawal during several 3-month summer sessions. When we returned from these periods of no researcher involvement, we observed no drift in the use of the meeting procedures. These and other anecdotal observations give us confidence that the cooperative would continue to use the technology if all researcher contact were eliminated. This suggests that survival probes provided a valid measure of intervention survival.

This study included an unusually long follow-up, too long to expect most researchers to emulate. However, carefully conducted probes for survival during the formal experiment can make extended follow-up observations unnecessary. If conditions during the experiment approximate the conditions that will be present after the experiment ends (especially with respect to involvement of the researchers), then measurements of survival during the experiment will provide a useful prediction of survival over time. This means that it is possible to test an intervention's survival at the same time we test its effectiveness. Observations conducted during the early phases of this experiment yielded measures of performance that were identical to the levels observed throughout follow-up. This replicates the findings of a recently published study in which survival probes predicted the survival of a worker-recognition intervention 5 years later (Altus et al., 1991). These studies demonstrate that, under some conditions, survival probes can forecast long-term survival.

We cannot, however, expect that survival probes will accurately forecast long-term survival under all conditions. In this setting, the meeting system is

one component embedded in a complex context. Changes in other components of the context could threaten the survival of the meeting system. For example, the members of the cooperative sign up for jobs during the weekly meetings. This practice encourages attendance, because members who attend the meetings get first choice of jobs. Any change in the worksharing system that reduces the importance of signing for jobs could reduce meeting attendance and lead to major, perhaps ill-fated, changes in the meeting system. Specifying all the conditions necessary for an accurate forecast of long-term survival will require more information than the present study produced. It will require analyzing the functional relations between the target intervention and other elements of the setting.

Survival probes may offer a useful extension to the social validity methodology. Previously, researchers inferred an intervention's ability to survive from verbal reports of social validity (Schwartz & Baer, 1991; Wolf, 1978). However, positive verbal reports have been observed even for interventions that have not survived. This led Schwartz and Baer to conclude that social validity is "often being assessed in a spurious manner" (p. 192; see also Green, Reid, Perkins, & Gardner, 1991). It appears that verbal reports of social validity, although effective tools for program development (Fawcett, 1991a) and quality control (Braukmann & Wolf, 1987), are not especially useful predictors of survival. Survival probes appear to provide a more accurate prediction of survival over time, probably because they permit direct observation of survival and experimental analysis of conditions that are likely to promote survival.

Survival probes also permit an interactive, trial-and-error approach to intervention development. By probing for survival during the development of the meeting system, we were able to observe how reliably the staff used the procedures. Through repeated revisions, we eventually created a set of meeting procedures that operated effectively without researcher involvement. This approach created contingencies for our own program-designing behaviors that shaped the development of a sustainable system for running meetings. The approach is similar to the one used by designers of instructional programs (e.g., Holland, 1960) and might reasonably be called *survival programming*. Other researchers have recommended comparable approaches to the development of behavioral interventions (e.g., Bunck & Iwata, 1978; Fawcett, 1991b; Jacobs, Bailey, & Crews, 1984).

The survival programming approach led us to use four strategies that may have contributed to the survival of the meeting system. The first involved explicitly transferring responsibility for supervising the intervention to the local staff instead of having the supervisory behaviors performed by researchers. This strategy appears to be a characteristic of many interventions that tend to survive (e.g., Alavosius & Sulzer-Azaroff, 1986; Altus et al., 1991; Bunck & Iwata, 1978; Crowell, Anderson, Abel, & Sergio, 1988; Iwata, Bailey, Brown, Foshee, & Alpern, 1976; Porterfield, Blunden, & Blewitt, 1980; Richman et al., 1988).

The second strategy involved minimizing the effort required from the staff to implement the intervention. We developed a simple routine for meetings that was easy for the chairpersons and the members of the cooperative to follow. The prompting checklist made it easier for chairpersons to remember the sequence of steps. The training manual and the performance review checklist made it easier for the meeting coordinator to train and supervise the chairpersons. Together, these documents made it possible for the members of the cooperative to implement the meeting system without having to rely on the researchers' expertise. Glynn (1990) and Green et al. (1991) have suggested that minimizing the effort for the staff who will actually implement an intervention may be critical to its survival.

The third strategy is not as well documented in the literature but may have been the most important. It involved amplifying the naturally occurring contingencies instead of creating new contingencies for appropriate meeting behaviors. Shorter meetings, effective decisions, the opportunity for all members to participate, recognition for appropriate meeting behaviors, and satisfied meeting participants are all part of the constellation of reinforcers

generally available at meetings. We designed the meeting procedures to make the contingent relations between appropriate meeting behaviors and these existing reinforcers more explicit and consistent. The chairperson's primary function was to set the occasion for behaviors appropriate to each step of the meeting. We designed the training manual to make the connection between the chairperson's behaviors and a smoothly operating meeting more obvious.

By amplifying the natural contingencies for effective meeting behaviors in these ways, we reduced the need for our involvement as the supervisors of an engineered system of behavioral contingencies. Researchers have observed similar benefits when amplifying other naturally occurring reinforcers, such as saving money (Meyers, Nathan, & Kopel, 1977), satisfying customers (Crowell et al., 1988), reducing staff injuries (Alavosius & Sulzer-Azaroff, 1986), and improving job satisfaction (Altus et al., 1991; Porterfield et al., 1980). Several behavioral researchers have advocated this general strategy (e.g., Ayllon & Azrin, 1968; Los Horcones, 1992; Stokes & Baer, 1977).

The fourth strategy describes our approach to the use of the first three strategies rather than being a continuing component of the meeting system itself. This strategy consisted of working in partnership with the members of the cooperative to design the meeting procedures. Researchers have suggested that involving clients and staff in the development of interventions creates a sense of ownership that encourages use of the procedures (e.g., Fawcett, 1991b). Procedures developed collaboratively may better match the needs and interests of the clients and, therefore, be more likely to survive.

Several aspects of this study warrant some caution in interpreting the results. First, we did not analyze the four survival programming strategies experimentally, so no final conclusions regarding their utility can be made at this point. However, the explicit use of these strategies resulted in the 8-year survival of a relatively complex intervention. Further research into the utility of these strategies seems warranted. Second, we did not conduct a component analysis of the survival package, so it is possible that one or more of the components was unnecessary. However, the three components (manual, checklist, and reviews) were designed to work interdependently, and we suspect that implementation would suffer if any of the components were removed. Finally, because a new member served as chairperson every 2 or 3 weeks, the results test the effects on the meetings as a system rather than comparing any single individual's performance across conditions. Although this is a nonstandard aspect of the methodology, the stable and nonoverlapping levels of performance during all experimental conditions suggest that the intervention affected all chairpersons in essentially the same manner.

This study illustrates a methodology for experimentally analyzing and forecasting intervention survival. It shows that an intervention designed through survival programming can survive for a long period of time with a minimum amount of researcher involvement. Malott concluded his 1974 article with the assertion: "We have shown that our demonstration programs can work; we must now demonstrate that they can survive." The present study offers a methodology for pursuing that goal.

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Received August 12, 1992
Initial editorial decision October 21, 1992
Revisions received February 4, 1993; September 17, 1993; December 7, 1993
Final acceptance December 16, 1993
Action Editor, Richard A. Winett