Two Apparently Effective Strategies for Increasing Employee Compliance

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TWO APPARENTLY EFFECTIVE STRATEGIES FOR INCREASING EMPLOYEE COMPLIANCE

by

Ann M. Backe

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Faculty of The Graduate College
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TWO APPARENTLY EFFECTIVE STRATEGIES FOR INCREASING 
EMPLOYEE COMPLIANCE

Ann M. Backe, M.A.
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The present study investigated the controlling aspects of employee participation on compliance to store procedures through the use of a total participative group and a group trained in the technical and beneficial aspects of the procedures. Five grocery store cashiers comprised the Participative Group and six cashiers comprised the Value- and Skill-Trained (VST) Group. The researcher conducted one meeting with the members of the Participative Group to design procedures to decrease the number of checks returned to the stores because of non-sufficient funds. Following the development of the new procedures, the Participative Group received technical training on the procedures. In a meeting conducted 1 week later, the researcher described the new procedures to the VST Group and provided this group with the same technical training given to the Participative Group. The researcher also trained the VST Group in the beneficial aspects of the new procedures. The overall average percentage of compliance to the procedures for the Participative Group was 80.83% whereas the VST Group attained an overall mean percentage of 77.04%. These results apparently supported the hypothesis that employee participation and inductive and technical training will be effective strategies to increase employee compliance; however, alternative interpretations of the data are also possible and plausible.
ACKNOWLEDGEMENTS

I would like to take this opportunity to express my thanks to Dr. Dale Brethower for his guidance and ability to identify problems before they occurred. I am grateful for his patience through the many drafts of this paper.

Joe Fernandez, the district manager for Jewel Foods, and all of the service employees at these stores were very helpful and their knowledge of store operations contributed a great deal to the success of this study.

Finally, I would like to thank Dr. Ted Apking for his support and encouragement. His advice, ideas and judgement were valuable and very much appreciated.

Ann M. Backe
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Two Apparently Effective Strategies for Increasing Employee Compliance

In recent years, managers have looked closely at the potential benefits of using employee participative groups to identify problems and to make decisions that will affect or change the employees' jobs. Lowin (1968), Anthony (1978), and Bourdon (1980) list a number of advantages that managers might realize when using employee participative groups. These include early problem identification, improved quality of solutions, improved upward communication, high levels of organizational performance, and decreased employee resistance to organized change.

Although employee participation may be useful in many situations, Vroom and Yetton (1976) noted that participative groups may not always be appropriate. They described a model managers may use to identify situations where employee participation for decision making will be most successful. The model includes eight aspects of the problem situation to be analyzed to determine whether employee participation could appropriately be used. These factors are: 1) the importance of the quality of the decision, 2) the extent to which the leader/manager has the information to make the decision alone, 3) the extent to which the subordinates have the information to make a high quality decision, 4) the extent to which the problem is structured, 5) the extent to which acceptance and commitment on the part of the subordinates are critical for effective implementation, 6) the probability that the leader's/manager's autocratic decision will be accepted, 7) the extent
to which the subordinates are motivated to attain the organizational goals represented by the objectives in the statement of the problem, and 8) the extent to which subordinates are likely to be in disagreement over preferred solutions (Vroom and Yetton, p. 635).

Once a manager has identified a problem situation that may best be resolved through employee participation, the manager must organize the participation strategy carefully. There are many variables that can affect the degree of success for an employee participative program implemented to facilitate problem solving and organizational change. Katz (1964), Lowin (1968), Lawrence (1974) and Bourdon (1980) list many determinants of successful participation. They state that the problem to be solved should be important, the objectives and goals for the participants should be clearly and specifically stated, the participants should have access to all relevant information, and all activities should be reinforced. In addition, management must be supportive of the participative group and its activities. Management must believe that the employees' contributions are useful and valuable, management must listen to and be honest with the participants, and management must demonstrate confidence in the participants by making use of their suggestions. It is critical to the success of the participation attempt that managers address these issues.

It is apparent that employee participation provides managers with a valuable tool that can be applied in many situations. In an attempt to determine the effectiveness of employee participation in the reduction of employee resistance to change, Coch and French (1948) utilized total participative and representative participative groups to set new
production standards. Coch and French found that the total participative groups met the new standards significantly sooner than did the representatives or control groups.

In a replication of the Coch and French (1948) study, French, Israel and As (1960) conducted a study in a similar setting using moderate and weak participative groups to set production standards. The researchers allowed the moderate participative groups to make four decisions concerning production while the weak participative groups made only one decision. French et al. provided equal training for all groups and measured the effect of the training through a questionnaire. With this questionnaire, the researchers investigated the degree to which the subjects thought the participation was legitimate and the changes implemented were valuable. These researchers found no difference in the responses on the questionnaire between the groups. They also found that the amount of time necessary to reach production standards did not significantly differ between the groups. Because these results were in direct conflict with the results from the Coch and French study, Bartlem and Locke (1981) analyzed both studies and identified important confounding variables in the Coch and French research. Bartlem and Locke stated that these researchers failed to provide the additional technical training for the representative and control groups, while it had been given to the experimental groups. In light of these two studies and the Bartlem and Locke critique, it is questionable that participation was the controlling factor that led to the reduction of employee resistance.

Patchen (1965) also explored the use of employee participative groups to increase employee acceptance of change. In this study, groups
consisting of managers and employees (union representatives) met to discuss problems that occurred in the work setting. Through survey information, Patchen found that there was a high, positive correlation between participation and employee attitudes toward their job and acceptance of change. Patchen also measured motivation and interest in innovation on the job and found non-significant correlations for both. Unlike the previous studies, Patchen recorded no production data to directly measure acceptance and compliance to change.

Since the Patchen (1965) study, other researchers have experimented with participative groups to affect a wide range of dimensions. In a study conducted by Lawler and Hackman (1969), three groups of employees participated in the complete design of a pay incentive system developed to increase employee attendance. The researchers also used two groups of employees which had incentive plans imposed on them, two groups which had no incentive plans and an additional two groups which had the plans imposed on them but were allowed to interact with the researchers. The researchers included all of the imposed groups in the incentive system but did not allow them to develop any part of the plan. The researchers used the same incentive plans developed by the participative groups with the four imposed groups. Attendance increased from 88% to 94% for the employees in the participative groups, whereas the researchers found no change in attendance for the control groups, or for the groups who had the incentive plans imposed on them. Lawler and Jenkins (1981) conducted similar research using participative groups to design an employee compensation program. These researchers realized a decrease in turnover and increases in job involvement, job and pay satisfaction,
and pay administration satisfaction. It should be noted that the employer realized an 8% increase in salary costs due to the new program.

Streker-Seeborg (1978) used the Job Diagnostic Survey to determine differences in the levels of satisfaction and motivation between participative groups and two imposed groups. The participative groups, working with an external consultant and their supervisors, redesigned their job. In the second and third conditions, the plant manager or supervisors in collaboration with the consultant changed the jobs for the members of the imposed groups without input from the members. The participative group showed the highest level of job satisfaction and motivation while the plant manager imposed group showed the lowest scores in these areas. As in the Patchen (1965) study, Streker-Seeborg recorded no production data.

From this brief literature review, it is evident that employee participative groups may be very useful in the organizational setting. There is a great deal of literature in the area of employee participation. Researchers and managers have studied the effects of participative management for many years which resulted in a large number of articles and books. It is unfortunate that only a few researchers have conducted controlled studies and have been able to support their conclusions with hard, reliable data. Only a few researchers have accounted for and controlled extraneous variables that could confound all information gathered.

Conducting controlled experiments in applied settings, especially in business and industry, is very difficult because of those unpredictable, troublesome factors. It is likely that this is the cause of the
In spite of this scarcity, it is evident through these few studies and through case studies, anecdotal reports and theoretical discussions that participative management can be a very valuable tool for many managers. It is possible to boost motivation and satisfaction, to decrease turnover and absenteeism. But what are the specific characteristics of participation to which we can attribute these positive findings? The critique of the Coch and French (1948) study completed by Bartlem and Locke (1981) and the French et al. (1960) study raised an important question regarding this issue. Did Coch and French obtain their positive results because of the nature of "participation" (i.e. ownership of ideas, positive "feelings" generated through being a part of a group), or were the results caused by additional technical training? To address this question, the present study investigated the controlling aspects of employee participation through the use of a total participative group and a technically- and inductively-trained group. The Participative Group designed new procedures and received technical training on the procedures. The researcher then imposed the same procedures on the Value- and Skill-Trained (VST) Group. In addition to receiving the same technical training as the Participative Group, the VST Group also received an inductive training on the procedures. Gilbert (1978) defined this stage of training as a motivating and familiarizing step for the trainees. The trainer informs the students of the consequences of their performance, the value and importance of acquiring the skill and the outcomes of performing the skill competently or incompetently. Gilbert notes that the inductive stage of training will frequently be a simple
one, requiring only an explanation of the task and the outcomes of good and poor performance. There are occasions though, when this inductive step will be difficult, especially when attempting to change the trainees' point of view or to persuade them to consider seriously notions previously thought of as trivial.

The hypothesis of the present study is: Total participation and inductive and technical training will both be effective as methods to increase employee compliance.
METHOD

Research Site and Subjects

The subjects were 11 grocery store cashiers who volunteered to participate in activities to develop new store procedures. One supermarket chain employed all of the subjects at two separate locations. The location of employment determined group membership so that the group from Store A had six members and the group from Store B had five members. The subjects received no pay or other benefits for their participation in the study. Although the groups were homogeneous with respect to cashier experience, the subjects from Store A generally enjoyed better relationships with their co-workers than did the subjects from Store B. Also because of location, the stores serviced customers of different social and economic levels. Store A appeared to service customers of higher economic levels while Store B serviced customers of lower economic levels and attracted few professional-type people.

Problem Description

The researcher formed the groups with the purpose of designing procedures to reduce the number of checks returned to the stores because of non-sufficient funds. By reviewing past logs of returned checks, the researcher found that the returned-check problem was a significant one for this supermarket chain. The researcher also identified the problem as an important but sensitive one for the store managers. Returned checks cut into profits but some managers believed that this is an unsolvable problem and the losses have to be tolerated. Through the research of the
past logs, the researcher found the problem to be larger at some stores than at others and this led the researcher to believe a reduction of returned checks could be attained.

Procedure

Experimental Design

This study used two different groups which each formed an A-B-C design to demonstrate the effects of employee participation and training on the level of compliance to new store procedures. The researcher randomly assigned each group to one of two intervention strategies, total employee participation and technical- and inductive-training. The Participative Group contained five members employed at Store B and the Value- and Skill-Trained (VST) Group contained six members employed at Store A. The researcher compared mean values the groups attained on seven separate measures to determine differences between the effects of the intervention techniques.

Measures

The researcher recorded five measures during the Baseline Phase for the members of both groups. To determine group performance, the researcher recorded 1) the number of checks returned because of non-sufficient funds per subject to the number of checks accepted each week by the subject, and 2) the dollar value of checks returned per subject. To measure the performance of the stores overall, the researcher recorded 3) the number of checks returned to the stores for all cashiers employed, and
4) the dollar value of all checks returned. For the last baseline measure, the researcher examined samples of checks accepted by each subject drawn from one particular bank. This bank distributes check cashing cards to preferred customers which guarantee customers' checks up to $250. The researcher determined through the bank the number of accounts in each sample that belonged to customers owning check cashing cards (Wellington, Note 1).

The researcher recorded two additional measures for both groups during the Intervention Phase. These were the percent of checks accepted according to the designed procedures, and the number of store check-card applications given to customers per subject (see Appendix A for a description of the methods for measurement). Two store service assistants conducted reliability checks each week during the Intervention Phase on the number and dollar value of checks returned per subject and for the store.

Baseline

During this phase, the researcher recorded the measures described above for both groups. Baseline lasted 4 weeks for the subjects in the Participative Group and 5 weeks for those in the VST Group. The researcher made no manipulations during this phase and aside from the time discrepancy and store location, no other differences existed between the groups.

Intervention
Participative Group

The researcher conducted one meeting attended by the members of the Participative Group. The purpose of this meeting was to develop procedures to decrease the number of checks returned to the stores because of non-sufficient funds. In this meeting, the researcher described the magnitude of the problem by providing data and illustrations. The researcher reviewed information on store policies and banking systems that might help group members design new procedures. The researcher also asked the subjects to discuss any additional information they had relevant to store and bank policies concerning overdrawn checks.

The subjects individually submitted ideas in written form for procedures to implement, then as a group, discussed the advantages and disadvantages of each. The researcher allowed the subjects to revise and integrate suggestions until the subjects reached consensus. The researcher and store manager approved the new procedures which were:

1) Name and address written on every check.
2) Account number of check written at the top of the check.
3) Number 1 card numbers written at the top of the check for all non-verified checks from First National Bank. If the customer does not own a Number 1 card, the subject will write "No #1" at the top of the check.
4) Subjects will give customers a Jewel check card application if they make purchases over $25 without a Jewel checkcard or a Number 1 card.
5) The researcher will provide each subject with information concerning checks returned that had been accepted by that subject.

See Appendix B for a thorough description of the designed procedures.

After the subjects completed the design of these procedures, they engaged in role play activities designed by the researcher to teach the skills necessary to comply with the procedures. All of the subjects
played the roles of the customer and the cashier. The researcher prompted the subjects to provide performance feedback to one another regarding the cashier's role. The researcher continued the role play activities until all subjects correctly accepted a check as defined by the newly-designed procedures.

The subjects then completed a meeting evaluation questionnaire on their reactions to the meeting and to the study in general. The researcher began recording the Intervention data immediately after this meeting and continued to record these measures for 7.5 weeks.

**Value- and Skill-Trained Group**

Following the Participative Group meeting the researcher conducted one meeting with the VST Group 1 week later. The researcher described the extent of the returned-check problem and the new procedures designed by the Participative Group. The researcher informed the members of the VST Group that the Participative Group developed the procedures 1 week earlier. The researcher also described the advantages of the new procedures. The "value" training included a discussion of five aspects of the new procedures that benefit both the employees and the stores. The researcher described how compliance to the procedures would enable the subjects 1) to be more effective and skilled employees because they had 2) attained technical knowledge of store policies and banking systems and this produced 3) employees that were valuable to the store. In addition to these points, the stores benefited by 4) reducing their loss of revenue and 5) having a more advanced system to filter incoming checks.
After this training, the subjects engaged in the same role play activities as the Participative Group. The researcher determined mastery of the skills in the same fashion as for the Participative Group.

Following the role play activities, the subjects completed the meeting evaluation questionnaire. The researcher used the information obtained on the questionnaire from both groups to determine the success of the "value" training and to predict levels of compliance for both groups. The researcher began recording Intervention data for the VST Group immediately after the meeting and continued to collect data for 7.5 weeks. The meetings conducted with each group lasted 1.5 hours.

After 3.5 weeks of recording Intervention data for the Participative Group, the researcher posted signs at that store location regarding the success of the intervention. The researcher included information such as the number of checks returned per group, the dollar value of checks returned per group and for the stores, and the group's mean percentage of compliance to the procedures. The researcher began to post signs at the VST Group store 1 week later, also after 3.5 weeks of recording Intervention data. The researcher posted new signs each week at both stores for their remaining 4 weeks of Intervention.
RESULTS

The purpose of the present study was to investigate the effectiveness of employee participation and technical and inductive training for increasing employee compliance. Figures 1 through 5 and Table 1 display data recorded on the compliance to procedures established in both stores. The results presented in Tables 1 and 2 and in Figures 1, 2, and 3 represent group totals or group mean percentages. Figures 4 and 5 represent subject mean percentages (see Appendix C for additional individual subject data).

During the Baseline Phase, the researcher obtained one sample of 15 checks drawn from First National Bank for both groups. Through the bank (Wellington, Note 1), the researcher found that four of the 15 checks accepted by members of the Participative Group were written by customers owning a Number 1 card. Of the sample of 15 checks accepted by those in the VST Group, three accounts belonged to customers owning Number 1 cards. This information indicated the potential decrease in the number of returned checks caused by a failure to record the Number 1 card number on the check.

In order to determine whether the inductive training would be as effective as participation to increase employee compliance, the researcher gathered data on the subjects' initial reactions to the problem and the intervention with the meeting evaluation questionnaire. The researcher used the data obtained from the responses on the meeting evaluation to predict levels of compliance for both groups. The group members responded to the questions on a scale of 1 to 5 of which an answer of "5" showed support of the study or of the procedures. The mean
response for the Participative Group to the question, "Do you think the problem of returned checks is an important one for this store?", was 3.6 which compared to a mean response of 3.7 for the VST Group. The groups also responded similarly to questions concerning whether the procedures designed will be effective (Participative Group was 3.4 and VST Group was 3.5), and whether the subjects will use the procedures (Participative Group responded 4.2 and VST Group was 4.5).

From these data, the researcher concluded that the subjects in each group indicated equal but not particularly strong agreement on the importance of the problem and on the predicted effectiveness of the procedures. These subjects though, indicated a stronger commitment to use the procedures, showing that the inductive training was reasonably effective.
Figure 1. Overall mean percentage of compliance for the Participative Group and for the VST Group.

Figure 1 shows the mean percentage of compliance for each group on three measures of compliance. These measures were compliance to 1) the address procedure, 2) the account number procedure, and 3) the Number 1 card procedure. The researcher obtained samples of checks weekly for each subject to determine the percentage of compliance to each procedure. Each sample ranged from seven to 49 checks per subject. The fluctuation
in sample size was caused by the variability in the subjects' schedules which the researcher could not influence.

One can see that the groups attained nearly the same level of compliance before the researcher provided the Performance Feedback. Even after the researcher posted this information, the groups differed only slightly in their levels of compliance. The researcher found that the responses on the meeting evaluation accurately predicted high levels of compliance to the procedures by both groups.
Figure 2. Mean percentage of compliance on three procedures for the Participative Group.
Figure 3. Mean percentage of compliance on three procedures for the VST Group.

Figures 2 and 3 show the breakdown of the overall mean percentages of compliance for each group into the three separate compliance measures. As in Figure 1, Figures 2 and 3 show nearly equal levels of compliance to the procedures by both groups. The individual subject data in Figures 4 and 5 more clearly show the actual effects of the participation and training strategies.
Figure 4. Mean percentage of compliance on three procedures for each subject in the Participative Group.
Figure 5. Mean percentage of compliance on three procedures for each subject in the VST Group.
Figure 4 shows the mean percentage on three measures of compliance for each subject in the Participative Group and Figure 5 shows the mean percentages for those in the VST Group. These measures were compliance to 1) the address procedure, 2) the account number procedure, and 3) the Number 1 card procedure.

One should note that while all of the subjects in both groups attained a high level of compliance weekly on the address procedure, the subjects' percentages varied with respect to the measures taken on the account number procedure and the Number 1 card procedure. While approximately half of the subjects in both groups consistently complied to the account number procedure, the remaining subjects consistently ignored the procedure. For this reason, the groups' mean percentage of compliance on the account number procedure was generally high (approximately 70%).

One should also note that the researcher obtained no compliance measures during Weeks 2 and 6 for Subjects 4 and 5 of the Participative Group. This affected the overall group mean percentages dramatically in Week 6 since both subjects obtained generally low compliance measures on the account procedure. In addition, Subject 5 maintained a rather high level of compliance on the Number 1 card procedure. Therefore, since the low compliance to the account number procedure was not included, the group percentage increased. Similarly, the high compliance to the Number 1 card procedure was not included causing a decrease in the group mean percentage during Week 6, thus these changes are artifacts rather than substantive.
Table 1

Mean Number of Applications Given Per Week

<table>
<thead>
<tr>
<th>Weeks</th>
<th>Participative Group</th>
<th>VST Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7.2</td>
<td>13.16</td>
</tr>
<tr>
<td>2</td>
<td>0.5</td>
<td>4.83</td>
</tr>
<tr>
<td>3</td>
<td>1.0</td>
<td>4.5</td>
</tr>
<tr>
<td>4</td>
<td>0.25</td>
<td>1.0</td>
</tr>
<tr>
<td>5</td>
<td>0.0</td>
<td>3.3</td>
</tr>
<tr>
<td>6</td>
<td>0.0</td>
<td>1.3</td>
</tr>
<tr>
<td>7</td>
<td>0.0</td>
<td>2.3</td>
</tr>
</tbody>
</table>

Table 1 provides the mean number of Jewel check-card applications given out per week for both groups. Although the members of the VST Group consistently distributed more applications than those in the Participative Group, neither group maintained their initial high levels of compliance. Individual subject data for this procedure can be found in Appendix C.
### Table 2

**Number and Dollar Value of Checks Returned**

<table>
<thead>
<tr>
<th>Weeks</th>
<th>Participative Group</th>
<th>VST Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total #/$</td>
<td>Group #</td>
</tr>
<tr>
<td>1</td>
<td>6-270</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>6-212</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>8-203</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>6-158</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>11-333</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>12-714</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>9-345</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>10-260</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>3-194</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>5-149</td>
<td>0</td>
</tr>
<tr>
<td>11</td>
<td>7-201</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>-----</td>
<td>–</td>
</tr>
<tr>
<td>TOTAL</td>
<td>57-2196</td>
<td>9</td>
</tr>
</tbody>
</table>
Table 2 shows the total number and dollar value of checks returned to both stores per week and the breakdown of those numbers for those participating in the study and the rest of the cashiers employed at the stores. The Participative Group store had a total of 20 cashiers employed while the VST Group store had 21 cashiers employed. The heavy dark line on the table divides the data into the Baseline and Intervention Phases.

As one compares the data between the Participative and VST stores, it is apparent that the total number and dollar values of the returned checks during Baseline was nearly the same for both stores. During the Intervention Phase, the Participative store received 57 returned checks, nine of these accepted by cashiers participating in the study. This compares to only 51 checks returned to the VST store, of which the subjects had taken 14. It is important to note that the nine returned checks accepted by the Participative Group members amounted to only $186 while the 14 returned checks accepted by the VST Group members amounted to $713.

These data show that while the Participative Group store received more returned checks during Intervention than the VST Group store, fewer of those checks returned to the Participative Group store had been accepted by the group members. The dollar value of these checks was much less than the value of those returned checks accepted by the VST Group members.
DISCUSSION

The data in Figure 1 apparently support the stated hypothesis that employee participation and technical and inductive training will yield high levels of employee compliance; both groups attained approximately an 80% compliance rate which was sustained for 7 weeks.

In the present study, the researcher found generally high levels of compliance for the Participative Group and for the VST Group. Due to the procedures implemented by the Participative Group and the design of the study, the researcher cannot state that the participation and the technical and inductive training directly produced high compliance from the employees. It is likely that some of the subjects in both groups used these procedures prior to the study. This cannot be determined since the researcher recorded no compliance data on these procedures during the Baseline Phase. Therefore, the participation and training strategies may not have had an impact on some of the subjects. These subjects, though they complied with the established procedures, continued to perform the same check-accepting activities during the study as they had before the study began.

By reviewing Figures 4 and 5, one can see that the intervention strategies did have an effect on some of the participants. While Subjects 4 and 6 of the VST Group displayed only temporary compliance to the Number 1 card procedure, Subjects 2 and 3 showed continued improvement on compliance to this procedure. In addition, all subjects maintained a high level of compliance to the account number procedure except for Subjects 4 and 5 of the Participative Group and Subjects 2
and 3 of the VST Group. The participation and technical and inductive training strategies had very little effect on the compliance rates to this procedure for these subjects.

It should also be noted that the level of effort necessary to comply with each of the three check-accepting procedures was not equal. The level of compliance to the address procedure was predictably high since almost all customers have that information printed on their checks, and therefore, required no behavior on the part of the subject.

Levels of compliance to the account number procedure were either very high (100%) or very low (0-5%). Prior to the study, supervisors of the stores requested the cashiers to re-write the account number from the bottom of the check to the top, although the supervisors did not reprimand cashiers for non-compliance to this procedure. Therefore, some cashiers had used this procedure before the study began.

The most important procedure implemented in terms of reducing the number of returned checks was the Number 1 card procedure (each procedure is explained in Appendix B). The attained level of compliance to this procedure is generally high although it is probably not as impressive as it should be. Nearly all of the checks in the samples that showed compliance to this procedure had the Number 1 number on it, rather than "No #1". Only rarely did the cashiers record "No #1" on a check when the customer was without a Number 1 card, and this resulted in many instances of non-compliance. Because of this, levels of compliance to this procedure were reduced.

The researcher was unable to obtain data on the number of completed applications returned by customers or on the number of new Jewel check
cards issued. The researcher was also unable to determine whether the low values for applications distributed were due to non-compliance or to a failure to record the values. In either case, data for both groups show a sharp decrease during Intervention which indicates that neither strategy effectively maintained compliance to this procedure.

As one reviews the data collected on the number of returned checks as compared to checks accepted, one notices the lack of a decrease in returned checks, which is disappointing but not surprising. Aside from the information recorded on a check when accepted by a cashier (i.e. the Number 1 card number or Jewel check-card verification), many external factors should be considered as to whether the check will be returned or not. Time of the month and year, clientele of the store, store location and the customers' bookkeeping abilities all have a major impact on the number of returned checks received by the stores. Therefore, it is concluded that this supermarket will always receive returned checks.

The utility of the data collected in this study may not be readily apparent. The compliance levels shown in Figure 1 make the intervention strategies appear to be effective, but the lack of baseline data on the use of the procedures prior to intervention seriously limits the conclusions that can be drawn from the study. The lack of baseline data was due to the fact that since the procedures had not been developed, baseline data on them could not be gathered. It is possible through an analysis of the individual subject data to make some statements on the overall effectiveness of the intervention strategies.

Although none of the studies on employee participation previously
cited reported direct measurement of compliance, the present study is comparable to these studies in many ways. Both the Coch and French (1948) study and the present study utilized employee participative groups to develop policies and procedures to improve employee efficiency. Coch and French determined, through increased levels of productivity, that employee participation can be a useful management tool. While the researcher did not collect productivity data in the present study, the researcher arrived at the same conclusion due to the apparent high levels of employee compliance.

The present study more nearly matched the study conducted by French, Israel and As (1960) since both studies involved participative groups and held technical training constant for all groups. This was not done in the Coch and French (1948) research and it was a major criticism in the Bartlem and Locke (1981) critique. Possibly because technical training was held constant for all groups in the French et al. (1960) study, these researchers found no significant difference between the productivity levels of the participative groups and the control groups.

Patchen (1965) used groups of union representatives to participate with managers to solve problems occurring in the work setting. The present study also utilized a participative group which consisted of union organized employees. Although Patchen did not collect productivity data or directly measure compliance to solutions implemented, Patchen determined through survey data that the employees were satisfied with their participation and were more likely to accept change.

With respect to the limitations of this study, the researcher would like to note three of these which were the most troublesome. First, all
of the employees in these stores belong to a union; therefore, it was necessary for the researcher to request volunteers rather than randomly selecting subjects from the entire group of employees. It is likely that since the subjects volunteered to participate, they would also be more likely to comply with any procedures implemented.

Second, the researcher could not influence the scheduling of the subjects or their placement on registers. The supervisors frequently placed subjects on express registers where checks are not accepted. Because of this, the opportunity to accept checks according to the procedures was reduced for these subjects.

Finally, the researcher did not have direct access to the checks which prevented the researcher from obtaining consistently large samples of checks (30 or more) for each subject every week. Although this did not pose a major problem, it was very annoying to the researcher.

Although it is not clear from the results of this study whether these strategies produce high levels of compliance, this research has contributed to the area of participative management in two important ways. First, the data from this study suggest that there is nothing inherently "magical" about participative management and that users of this technique should not expect all of their problems to disappear suddenly. Lowin (1968), Anthony (1978), and Bourdon (1980) made important and accurate statements concerning the success of any participative management program. Employee participative groups, when used appropriately, can yield very pleasant results.

Inductive and technical training, when conducted accurately, may also produce pleasing outcomes. It should be common knowledge that
Managers will achieve a greater degree of success if they describe not only how the employees should behave, but why. How will that behavior benefit the employee, as well as the organization? If the employee cannot identify any benefit he or she will receive by behaving differently, the employee will continue to behave as he or she has in the past.

Managers must not ignore the importance of technical training. Although it may seem obvious, it is likely that many employees in all types of organizations attempt to comply with procedures and policies set forth, but are unable to comply because they lack the skills necessary to do so.

A second important contribution from this study is the suggestion that neither strategy alone will maintain changes produced. Procedures developed through participation are as susceptible to extinction as those implemented through training.

Although this research has been helpful in the area of participative management, it has not touched upon many areas. For example, how might compliance levels differ between participative groups allowed multiple opportunities to interact and groups allowed only one interaction? Do "permanent" participative groups (i.e. Quality Circles) attain higher levels of compliance as compared to one-interaction and multiple interaction participative groups? Also, how would compliance levels differ between "imposed" groups informed that the procedures requiring compliance had been developed by managers, rather than by co-workers? The researcher believes these are very useful and important questions for future research.
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The researcher used several techniques for collecting data during the Baseline and Intervention Phases of this study. Throughout the study, the researcher examined all checks returned to both stores because of non-sufficient funds. The stores received all of their returned checks each week on Thursday. The researcher recorded the number and dollar value of all checks returned.

In addition to this measure, the researcher also obtained information on the total number of checks accepted weekly per subject during the Baseline and Intervention Phases. The researcher gathered these data from register tapes the service clerks ran at the end of the week. These tapes breakdown the total sales for the week for every employee, listing the number and dollar value of sales made with cash, checks, and food stores.

During the Baseline Phase, the researcher took one sample of checks from the subjects in both groups (two samples of 15 checks each). These checks, all drawn from First National Bank, had not yet been deposited. The researcher recorded the account numbers from the checks and through First National Bank (Wellington, Note 1), determined the number of checking accounts in the samples which belonged to customers owning a Number 1 card.

During the Intervention Phase, the researcher examined samples of checks from each subject weekly in order to measure the level of subject compliance to the procedures. The researcher reviewed these checks, which had not yet been deposited, and recorded whether or not the sub-
jects included the name, address, account number and the Number 1 card numbers of the checks. Sample sizes ranged from seven to 49 checks per subject per week.

To obtain a measurement on the number of Jewel check-card applications given to customers by the subjects, the researcher posted charts on which the subjects could record daily the number of applications given out. The researcher recorded the weekly totals for the subjects at the end of the week.
APPENDIX B: DESCRIPTION OF PROCEDURES IMPLEMENTED

During the Intervention Phase, the researcher recorded the rate of compliance to the procedures developed for decreasing the number of returned checks accepted by the members of the Participative Group and the VST Group.

Compliance to the name and address procedure usually required very little action on the part of the subjects since most checks have that information printed on them. Although almost all checks, whether they were returned or not, contained this information, the subjects included this step in the procedures because of its importance when attempting to collect on a check.

The second procedure required the subjects to re-write the account number from the bottom of the check to the top of the check. The purpose of this was to increase the accuracy of "key-punching". When a subject accepted a check from a customer, the subject entered the checking account number into the register. The computer compared that number to a listing of account numbers that had checks outstanding with the store. If the account number did not match any number in the computer, the subject then entered the amount of the check and cleared the register. If the account number entered by the subject matched a "bad" account in the computer, the register locked shut and the item read-out screen signaled the problem. The subjects included this step in the procedures to increase their accuracy of entering the account numbers, and therefore, locating more outstanding accounts.

The "Number 1 card" referred to in the third procedure is a check cashing card that First National Bank gives to preferred customers.
The Number 1 card number when written on a check, will guarantee the check up to $250. For example, if a subject accepted a check for $200 from a customer with a checking account from First National Bank, and recorded the Number 1 number on the check, the check will not be returned to the store. If the customer does not have $200 to cover the check, the bank is responsible for covering the amount of the check and collecting its money from the customer. When a subject encountered a customer writing a check from First National Bank but did not have the Number 1 card, the subject wrote "No #1" at the top of the check, indicating that she or he complied with the procedure by asking for the card.

The members of the Participative Group decided to use this procedure only on those checks from First National Bank that had not been verified by a Jewel check cashing card. The subjects thought that it would anger the customers who had verified their checks to be asked for another piece of identification.

The fourth procedure was aimed at increasing the number of customers owning Jewel check cashing cards. Although checks that have been verified with the Jewel checkcard are often returned to the store, the stores can collect on every check, either through the customer or through the store insurance.

The Participative Group members enacted the last procedure in order for each subject to receive information weekly on the number and dollar values of checks returned. The researcher recorded all of the returned checks each week, then completed one 3 x 5 card for each subject containing all the information concerning returned checks the subject has accepted.
APPENDIX C: INDIVIDUAL SUBJECT DATA

Table 3 lists the total number of Jewel check card applications given out per week for subjects in both groups.
Table 3

Number of Jewelcard Applications Given out Weekly Per Subject

<table>
<thead>
<tr>
<th>Week</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<tbody>
<tr>
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<td>17</td>
<td>6</td>
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<td>0</td>
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<td>8</td>
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<tr>
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<td>2</td>
<td>0</td>
<td>0</td>
<td>8</td>
<td>0</td>
</tr>
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</table>
As shown in Table 3, one can see that Subjects 4 and 5 of the VST Group consistently distributed more applications than all of the subjects in the Participative Group and the rest of the subjects in the VST Group. The researcher cannot determine whether the low values for the remaining subjects are due to a failure to comply to the application procedure or to a failure to record the number of applications distributed. It is evident from these data that neither intervention strategy maintained compliance to this procedure. There is an obvious decline in the number of applications given out for nearly every subject in both groups.
<table>
<thead>
<tr>
<th>Weeks</th>
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<th>VST Group</th>
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<tr>
<td>11</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>12</td>
<td>------</td>
<td>------</td>
</tr>
</tbody>
</table>

Table 4
Number of Checks Returned Compared to Total Number of Checks
Accepted Weekly per Subject
Table 4 compares the number of checks returned to the number of checks accepted each week for subjects in both groups. The dark line divides the data into the Baseline and Intervention Phases. The number of checks accepted per week (the denominator) varies a great deal from week to week for each subject. This is due to the number of hours worked per week, the time of day worked, and whether the subject worked at a regular register or at an express register where checks are not accepted.

The number of checks returned to the stores did not decrease after Baseline for the subjects in either group. The number of checks returned for these subjects was very low during Baseline so that the subjects needed to attain nearly a 0% return rate to result in a significant difference. There are also many external variables that may have an impact on the returned-check level. These include the time of the month and year, store location, clientele, and poor bookkeeping behaviors on the part of the customers.


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