

Supervisory Participative Behavior and Employees' Job Satisfaction, Behavior and Work Performance: A Longitudinal Quasi-Experiment

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ABSTRACT

This study attempts to investigate the effects of supervisory participative behavior on employee attitudes, behavior and work performance using a quasi-experimental design in a field setting. One hundred and twenty eight employees from a Malaysian Government agency were selected and randomly assigned into experimental and control groups. The results indicated, firstly, that supervisory participative behavior did not have significant effects on employees' job satisfaction. Secondly, although the supervisory participative behavior was found to have significant effects on the employees' work behavior (absenteeism and intent-to-stay) at posttest 1, the effects seemed to diminish at posttest 2. Finally, whilst quantity of work was strongly influenced by supervisory participative behavior, quality of work, however, was not.

ABSTRAK

Kajian ini cuba menguji pengaruh penyeliaan secara penyertaan ke atas sikap, kelakuan, dan prestasi kerja dengan menggunakan rekabentuk kuasi "in a field setting". Seramai 128 orang kakitangan daripada sebuah organisasi kerajaan telah dipilih dan dibahagi secara rambang kepada kumpulan-kumpulan eksperimen dan kawalan. Keputusan kajian menunjukkan, pertama kali, penyeliaan berpenyertaan tidak mempunyai kesan yang signifikan ke atas kepuasan pekerjaan. Kedua, sungguh pun penyeliaan secara berpenyertaan mempunyai kesan yang signifikan ke atas kelakuan kerja (tidak hadir kerja dan niat untuk berhenti kerja) pada lepas ujian 1 (posttest 1), tetapi kesan ini didapati telah pudar pada lepas ujian 2 (posttest 2). Akhirnya, kuantiti kerja didapati dipengaruhi kuat oleh penyeliaan secara berpenyertaan, tetapi kualiti kerja didapati tidak dipengaruhi oleh penyeliaan secara ini.

INTRODUCTION

Participation in decision making as a motivational tool has been advocated by many noted scholars, such as Argyris (1957), Vroom (1960), and Likert (1961). These scholars advocate that employees, if given the opportunity to work with the organization, would develop a sense of pride in their job. The scholars further-assert that participation by an employee in a broader aspect of job-related and organizational-related decision making would motivate him/her to perform better.

Participation in decision-making (PDM) has been defined in many ways. Likert (1961), for example, regards participation as delegation of the supervisory power to the participating group. Vroom (1960), on the other hand, regards participation as two-way discussions between the supervisor and the subordinates without the supervisor having to delegate authority to the subordinates. Others have defined participation as face-to-face discussions between the supervisor and the subordinates, wherein each subordinate is given an opportunity to get involved in solving the problems related to his/her job (Mohr 1977). Participation in decision-making (PDM) can then generally be regarded as consisting of delegation, consultation, group meetings, and individual meetings between the supervisor and the subordinates.

Although PDM as a conceptual motivational tool has gained prominence in the management literature in recent years, it has actually been rarely tested under controlled experimental conditions in actual field settings. Most of the participation studies have been based on correlational and cross-sectional designs. However, correlational designs, according to Vanderslice, Rice and Julian (1987), do not provide strong indications of the nature of the relationships between the dependent and the independent variables. The results from the correlational studies could be subjected to alternative explanations since the correlational designs could not rule out other competing variables which could affect the dependent variables (Cook & Campbell 1979).

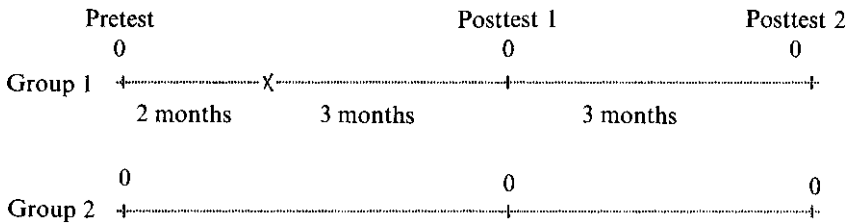
While the results from the correlational studies generally support the hypothesized relationships between PDM and employee attitudes and behavior (Morse & Lorsch 1970; Price & Mueller 1981), the results from the experimental studies in actual work settings do not support the hypothesized relationship (Lischeron & Wall 1977). On the other hand, results from the field experiment generally support the PDM-work performance relationship (Cotton, Vollrath, Froggatt, Lengnick-Hall & Jennings 1988). Despite the inconsistent empirical results of the relationship between PDM and job satisfaction, PDM is still being regarded as an organizational motivational tool to enhance employees' job satisfaction, behavior and work productivity (Griffin 1988). The present study, there-

fore, is a further attempt to test the relationships between PDM and job satisfaction, behavior, and work performance by conducting a controlled quasi experiment in a Malaysian organizational setting.

METHODOLOGY

RESEARCH DESIGN

The present study utilized a longitudinal, quasi-experimental design in a field setting (Figure 1). The advantages of conducting experiments in field settings have been well argued by French (1953), and Lischeron and Wall (1977).



Note: O = Observation, X = The intervention

FIGURE 1. The Research Design

Approximately one month before the start of the supervisory behavior intervention (the “intervention”), the first wave of data (pretest) was collected from both the experimental and the control groups. Once the “intervention” was introduced, it remained in effect until the end of the research study. The second wave of data (posttest 1) was collected three months after the introduction of the “intervention”, and the third wave (posttest 2) was collected six months after the introduction of the “intervention” or three months after the collection of the posttest 1 data.

SUPERVISORY BEHAVIOR INTERVENTION (THE “INTERVENTION”)

The “intervention” introduced in the experimental group, consisted of the supervisory behaviors which encouraged the subordinate employees to increase their levels of participation in the supervisory decision-making process. This was accomplished through increases in group and dyadic meetings between the supervisor and the subordinate employees.

The supervisors in the experimental group were trained in the participative decision-making process. They were requested to hold group at least once in every month while the supervisor-subordinate dyadic meetings were held once every two weeks, at least for the duration of the study. In all the meetings and interactions with the subordinates, the supervisors were requested to practice participative styles of behavior according to the procedures given during the training program.

SUBJECTS

The subjects consisted of twenty-three groups of 128 employees from a government agency in Malaysia. These groups of employees (the subjects) were assigned to either one of two research groups, identified as the experimental (Group 1) and the control group (Group 2). While the subjects in the experimental group were exposed to the supervisory behavior intervention (consisting of the participative behaviors), the subjects in the control group were not, being under the usual styles and behaviors of supervision of their supervisors.

MEASURES

The supervisory behavior was measured using a scale adapted from Mohr's (1977) participatives scale, Steers' (1976) participation in goal setting and feedback scale, and Oldham's (1976) reward behavior scale. The reliability (internal consistency) of the scale used to measure participation in goal-setting (Cronbach's $\alpha = 0.72$) and feedback on goal-effort (Cronbach's $\alpha = 0.80$) was reasonably high (Steers 1976).

Job satisfaction The job satisfaction of the subjects was assessed using the Job Descriptive Index (JDI) questionnaire (Smith, Kendall & Hulin 1969). The JDI assesses five dimensions of job satisfaction, including satisfaction with work, pay, promotion opportunity, supervision, and co-workers. The validity and reliability of the JDI items have been well established (Bateman & Strasser 1984).

Quantity of work was calculated by dividing the total number of files processed and submitted by the subordinate employees for a study period with the total number of working days during that study period. The average productivity for the first data collection was similarly calculated, except that in this case the total productivity and the working days were for the period prior to the first data collection. The data for calculating the average daily productivity for the two periods were obtained from the supervisors.

Quality of work was assessed as the average number of mistakes per file processed. The mistakes committed were based on the criteria stipulated by the organization, which were the same for all the participating employees. The data for the quality of work was obtained from the participating supervisors. The higher the number of mistakes committed means the lower the quality of work done by the subjects.

Intent-to-stay was measured using a three-item instrument on a 5-point scale (Keller 1984). The internal consistency (coefficient alpha) reported for this instrument was 0.67 (Keller 1984).

Absenteeism was measured using the frequency or incidence of absenteeism for each of the observation periods (i.e., two months before the first data collection, and three months each after the second and third data collections, respectively). Incidence of absenteeism is widely used in the turnover and absenteeism research, and is also reported to be a good predictor of employees' absenteeism behaviour (Johns 1978; Popp & Belohlav 1982).

Hypotheses Three sets of hypotheses were proposed and tested in the study .

Hypothesis 1

The subjects from the experimental group (i.e, the group with the supervisory behavior intervention) will have higher levels of job satisfaction than the subjects from the control group (i.e, the group without the supervisory behavior intervention).

Hypothesis 2

The subjects from the experimental group will have higher intention to stay in the organization and lower rate of absenteeism than the subjects from the control group.

Hypothesis 3

The subjects from the experimental group will have higher levels of quantity and quality of work than the subjects from the control group.

RESULTS

RELIABILITY OF SCALES USED

Coefficient alphas (internal consistencies) of the scales used in the study were shown in Table 1.

TABLE 1. Reliability of scales used
(Pretest data, n = 128)

Scales	No. of items	Alpha coefficients
Supervisory behavior	13	0.8340
Job satisfaction	72	0.9186
Intent-to-stay	3	0.6822

The coefficient alphas of the scales used in the study which ranged from 0.6822 to 0.9186 were acceptable for research purposes (Omran 1983). In fact, the reliability coefficients of supervisory behavior and job satisfaction were higher than 0.8, which were comparable with or better than, the reliability coefficients reported in the literature (Steers 1977).

MEANS AND STANDARD DEVIATIONS

The means and standard deviations would indicate the distributions and variability of the data used in the study. These were shown in Table 2.

INTERCORRELATIONS AMONG VARIABLES

The intercorrelations among the variables (Pearson product correlation coefficients) were shown in Table 3.

MANIPULATION CHECK

The effectiveness of the supervisory behavior intervention was evaluated by the intervention check questionnaire. Table 4 shows the results of the analysis of covariance (ANCOVA) which was carried out to test the differences between the experimental and the control groups on the frequency of on the frequency of meetings, supervisory styles and subordinates' involvements in the meetings. The pretest data were used as the covariates.

The supervisory behavior intervention appeared to have the intended effects on the subjects. The subjects from the experimental group reported that they had more group and dyadic meetings, more participative styles of supervision, and were more involved in the meetings than the subjects from the control group at both posttests 1 and 2.

EFFECTS OF SUPERVISORY BEHAVIOR INTERVENTION

The multivariate analysis of covariance (MANCOVA) tests indicated that there were overall differences between the experimental and the control groups at both posttests 1 and 2 (p values for the Pillai test were 0.000 at

TABLE 2 Means and standard deviations for variables used in experimental and control groups

Variables	Pretest				Posttest 1				Posttest 2			
	Experimental Control		Experimental Control		Experimental Control		Experimental Control		Experimental Control		Experimental Control	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
SB	4 104	1 210	3 791	0 943	4 799	0 748	3 696	1 034	4 124	0 967	3 535	1 130
JS	1 924	0 516	1 839	0 455	1 885	0 439	1 791	0 451	1 862	0 512	1 838	0 519
I	4 055	0 889	4 180	0 631	4 338	0 698	4 022	0 850	4 269	0 837	4 056	0 865
QW	7 512	2 116	6 620	1 797	9 702	3 440	6 500	2 143	9 408	3 311	7 215	2 204
Qt W	3 239	2 175	5 311	4 581	3 418	3 168	4 000	4 103	3 179	2 696	4 230	3 452
Ab	2 552	1 428	2 607	1 144	3 403	1 326	4 089	1 589	3 269	1 629	3 280	1 884

Note: n Experimental Group = 67

n Control Group = 61 (n at posttest 2 = 59)

M = Mean

SD = Standard Deviation

SB = Supervisory Behaviour

JS = Job Satisfaction

I = Intent-to-Stay

QW = Quality of Work

Qt W = Quantity of Work

Ab = Absenteeism

TABLE 3. Pearson correlations for measures used
(pretest data)

Variables	1	2	3	4	5	6
1. Supervisory Behavior	1.0000					
2. Job Satisfaction	.5618	1.0000				
3. Absenteeism	-.3090	-.2430	1.0000			
4. Intent-to stay	.3133	.3434	-.3899	1.0000		
5. Work Quantity	.0851	-.0118	-.0891	-.0924	1.0000	
6. Work Quality	.0039	-.0661	.0451	-.0617	-.0080	1.0000

Note: * p < .05
 ** p < .01
 *** p < .001
 n = 128

both posttests 1 and 2). The study proceeded to test, post hoc, the differences between the experimental and the control groups on individual variables used in the study using the analysis of covariance (ANCOVA) for both sets of data (posttests 1 and 2).

The results indicated that at posttest 1, the subjects in the experimental group had higher levels of perceived supervisory participative behavior, intent-to-stay, quantity of work, and lower rate of absenteeism than the subjects in the control group (Table 5).

TABLE 5. Post hoc analysis of covariance for group effects on individual variables at posttest 1 (time 2)

Variables	Adjusted Means		F values	p
	E	C		
Job satisfaction	1.6528	1.6308	.1030	.749
Absenteeism	1.1475	1.3530	4.9984	.027
Intent-to-stay	4.3818	3.9784	7.6167	.007
Quantity of work	921.0660	699.1116	37.8584	.000
Quality of work	3.7794	3.6386	.0457	.831

Note: E = Experimental. C = Control. P = Probability of F values. The covariates were the pretest data of the variables used in the analysis.

TABLE 4 Analysis of covariance for manipulation check indicators

Indicators ^a	Adjusted Means							
	Posttest 1		Posttest 2		F		Sig of F	
	Experi-mental	Control	Experi-mental	Control	Posttest 1	Posttest 2	Posttest 1	Posttest 2
Frequency of Meetings	2 6333	3 5489	2 1678	3 4486	47 47	79 71	0 00	0 00
Supervisory Styles	2 7187	3 2493	2 3196	3 2139	30 50	68 93	0 00	0 00
Involvement in Meetings	2 7515	3 3616	2 4483	3 3274	21 27	45 43	0 00	0 00

Note For the Analysis of Covariance (ANCOVA), pretest measures were used as covariates Posttest 1 and 2 measures were used as dependent variables

^a Indicators The indicators were measures using scales ranging from 1 (very high) to 5 (very low)

This means that the supervisory participative behavior (participation in decision-making) had significant positive effects on the subordinate employees' work quantity, intention to stay in the organization and work attendance. Participation in decision-making (PDM), however, had no significant effects on the subordinate employees' job satisfaction and work quality ($p = 0.749$ and $p = 0.831$, respectively). At posttest 2, however, there were no significant differences between the experimental and the control groups on all the variables, except perceived supervisory behavior and work quantity (Table 6).

TABLE 6. Post hoc analysis of covariance for group effects on individual variables at posttest 2 (Time 3)

Variables	Adjusted Means		F values	p
	E	C		
Job satisfaction	1.6429	1.6739	.1325	.717
Absenteeism	1.0864	1.0864	2.8836	.092
Intent-to- stay	3.5145	3.4090	7985	.373
Quantity of work	914.6503	750.4587	13.1478	.000
Quality of work	3.1379	4.1259	3.3986	.068

Note: E = Experimental. C = Control. P = Probability of F values. The covariates were the pretest data used in the analysis.

This means that despite the significant differences in the perceived supervisory participative behavior, the experimental group and the control group differed significantly only in the quantity of work produced at posttest 2.

DISCUSSION AND CONCLUSION

The supervisory behavior intervention (participation in decision-making) strategy utilized in this study was intended to create a democratic atmosphere in the workplace, wherein employees were given a chance to participate in the supervisory decision-making processes which affected their work and work groups. It was intended, also, to increase interaction and communication between the supervisor and the subordinates. The increased interaction, involvement, and communication between the supervisor and the subordinates were expected to enhance the positive attitudes, perceptions and behaviors of the subordinates toward their jobs, supervisors, and organizations (Morse & Lorsch 1970; Jackson 1983; Beehr & Gupta 1987).

Although the effects of the supervisory behavior intervention on intent-to-stay and absenteeism were significant at the first three months, they were not significant at the second three months of the intervention. The effects on work quantity, however, were significant up to six months after the intervention. It appears, therefore, that the supervisory behavior intervention did not have a lasting (at least six months) impact on employees' intention to stay in the organization and work attendance.

The decreased effects of the intervention, over time, are not uncommon in the intervention types of studies. Griffeth (1985) in a job enrichment study, for example, reported that the positive effects (high job satisfaction) of the manipulated job (enriched) declined to their original levels (preintervention levels) three months after the enrichment manipulation. Also, Griffin (1988) reported that the supervisory participative behavior (PDM) did not have long lasting effects (less than two years) on the employees' work attitudes and performance in a Quality Control Circle (QDC) study

The reduced levels of impact over time could be argued from the "novelty of effects" perspective, which suggested that the subjects, after a prolonged exposure to the intervention strategies, would become adapted to the procedures of the intervention. Hence, the novelty of these intervention strategies would wear off and the subjects' responses to them would fall to their original levels (pretest levels) (Griffeth 1985).

The finding of the study also indicated that the supervisory behavior intervention (PDM) had increased significantly the employees' levels of work quantity, but not work quality. The results, however, indicated that PDM had improved the quality of work of the subjects in the experimental group relative to the subjects in the control group six months after the supervisory behavior intervention. These results were consistent with those reported by Cotton et al. (1988).

The result of the present study did not support the hypothesis that supervisory participative behavior was positively related with employee job satisfaction. This contradicts the results of most correlational studies, which tend to support the participation – job satisfaction relationship (Locke and Schweiger 1979; Beehr & Gupta 1987). The present result, however, supports the findings of a similar field experiment carried out by Lischeron and Wall (1977) which found that there was no significant relationship between participation in decision making and job satisfaction.

The non significant relationship between participation and job satisfaction found in this study could be due, partly, to the long time interval (three months) between each wave of the data collection. There was the possibility, therefore, that the study could not detect the short lasting effects of the supervisory behavior intervention on job satisfaction (Porter et al. 1974).

CONCLUSION AND LIMITATIONS OF THE STUDY

Based on the results discussed in the preceding section, it could be concluded that the present study had succeeded, within the limits of the field experimental procedure, in demonstrating that the supervisory behavior intervention (participation in decision-making) did have some significant effects on employees' work quantity, intent-to-stay, absenteeism and work quality. The effects were, however, not maintained throughout the study period. The effects of the supervisory behavior intervention on job satisfaction and work quality were not significant, which were consistent with the results obtained by Lischeron and Wall (1977).

The results of the present study were constrained by the following factors:

Firstly, the present study could not completely randomize the subjects into either the experimental and the control groups because of the restrictions imposed by the organization. The study, however, did randomize the work groups into either one of the two research groups. Non-randomization of the subjects was problem not unique to the present study alone. It is, in fact, a problem common to most field studies in a complex and ongoing organization (Fisher 1984).

Secondly, control of the implementation of the intervention strategies could pose a problem in the study. For example, it could be possible that the supervisors would not be able to implement completely the strategies outlined in the study because of their other duties and tasks.

Lastly, since the study was conducted in one organization (though at different sites) and utilized employees from one occupational group, the results would have a limited generalizability. The results need to be replicated in other organizations, with other types of employees, and with different dimensions of supervisory behavior, to increase its generalizability across situations and subjects.

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