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MANAGER'S INFLUENCE ON SUBORDINATES' THINKING ABOUT SAFETY

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Organizational climate may be an important determinant of the way organization members think about safety. Some organizational climates may tend to encourage subordinates to take individual responsibility for safety matters; others may encourage a belief that safety, like other aspects of organizational effectiveness, is a management responsibility. This paper explores the effects of one aspect of organizational climate on subordinates' thinking about safety.

Theory

Litwin and Stringer (4) demonstrated that leadership behavior affects organizational climate and climate affects performance. They utilized three leadership styles, modifications of the authoritarian, laissez-faire, and democratic leadership roles examined by Lewin et al. (3) to create organizational climates that would arouse either need for power, need for affiliation, or need for achievement (1) among members of three experimental organizations. Results showed that different leadership styles did create different organizational climates.

The greatest differences in employees' perceptions of climate occurred between the power oriented organization and both the affiliative and achievement oriented organizations. Members of the power oriented organization reported the organizational climate to be more structured, formal, controlling, and more punitive rather than rewarding. They also reported more aloofness and isolation, rather than feelings of support and warmth. Feelings of personal responsibility, "being your own boss," were lowest in the power oriented organization and highest in the achievement oriented organization. In the affiliation oriented organization, feelings of personal responsibility decreased for managers but increased for other employees over the two weeks of the experiment. As a result, at the end of the experiment, employees of the power oriented organization, as compared to employees of both the achievement and affiliation oriented organizations, reported significantly less sense of personal responsibility for their own behavior.

There was no measure of accident incidence in the Litwin and Stringer study. However, earlier work on leadership styles and organizational climates by Fleishman, Harris, and Burtt did relate subordinate perceptions of supervisory consideration to "the number of trips to the dispensary for treatment of injuries sustained while at work" (2, p. 63). The authors found that increased supervisory consideration was associated with fewer dispensary trips in production service areas. Consideration was unrelated to this measure of accidents in exclusively production divisions. The authors suggest that the relationship did not appear in the production divisions because foremen, under more time pressure, would not allow trips to the dispensary except for obviously serious accidents.

Revans (5) argues that organizational climate had an important effect on the accident experience of miners who worked for 14 essentially identical but separately owned companies mining a single coal seam in England. In 1947, after the industry was nationalized, the coal field was organized into two clusters of eight and six mines for administrative purposes. Prior to nationalization, the accident rates in the 14 mines had been randomly scattered between the limits of 90 and 220 accidents per 100,000 manshifts worked. After nationalization, a distinct trend developed towards the aggregation of accident rates into two distinct groups. In the first cluster of eight mines, all developed accident rates around the 110 level. In the second cluster of six mines, all developed accident rates around the 180 level.

Revans (5) reports that the difference in accident rates reflected the different leadership styles of the two managing directors. The first director attempted to reduce the social distance between himself and his managers by holding extensive consultations concerning policy matters and by sharing and discussing other information of vital concern to the enterprise. The second director, an ex-military officer, was much more distant and aloof, inclined to act arbitrarily and then to allow little discussion of his decisions. These contrasting leadership styles had important and contrasting consequences for the attitudes of the middle management personnel towards their respective leaders. In turn, these attitudes affected the organizational climate and the morale of the miners. Revans attributes the higher accident rate in the second cluster to the more threatening organizational climate.

The Lewin et al. (3), Litwin and Stringer (4), and Fleishman et al. (2) studies, all provide detailed empirical evidence that leadership styles affect organizational climate and this, in turn, affects general measures of organizational performance. The Fleishman et al. and Revans (5) studies both provide specific evidence that the supervisory support aspects of organizational climate have important consequences for organizational accident experience. Fleishman et al. suggest that supervisory consideration is associated with better accident performance. Revans' study suggests that less social distance and more supervisory support are aspects of organizational climate which are highly salient as far as organizational accident experience is concerned.

What is it about supervisory support which brings about improved safety performance? The answer may be implicit in the finding of Litwin and Stringer (4) that subordinates in organizations that have supportive climates report greater feelings of personal responsibility, of "being their own boss." Such an attitude might make it more likely that subordinates would think that they were responsible for their own safety rather than depending on their manager to make sure the work environment was safe. Hence, the basic proposition of this study:

> As subordinates rate their managers' interest in their general welfare as relatively low, they will think both personal and organizational safety is highly dependent on the safety-related behavior of their manager. As subordinates rate their managers' interest in their general welfare as relatively high, they will think their personal safety and organizational safety is less dependent on the safety-related behavior of their manager.

Method

Prior to collecting the data, the author had spent a considerable amount of time at the research site discussing safety matters with both managers and operators in an attempt to discern what factors might influence the different ways which employees appeared to approach safety. Arrangements were made to collect the data after the proposition presented above had been developed.

The data were collected in 1972 through a paper and pencil questionnaire from two groups of forklift truck operators who worked under different managers within the same warehouse. Members of each work group were involved in operating forklift trucks to load, transport, and unload large cartons of packaged products. The group sizes were 27 and 25 men. The questionnaire asked for group identification, age, responses to 15 safety related items and to one item asking subjects the extent to which their manager was interested in their general welfare. Operators were asked to indicate their opinions on five-point Likert-type scales. Some items explored procedures at safety meetings. As these appeared to be unrelated to the issues explored in this paper, they are not discussed further. To retain anonymity, operators mailed their completed questionnaires to the office of the plant safety administrator.

After tabulation, the results were discussed with the two managers. In these discussions, Manager B pointed out that his operators were younger than were those of Manager A. The data confirmed that operators in Group A had an average age of 31.8 years while those in Group B averaged 26.8 years ($p < .05$). Examination of a correlation matrix indicated that age was unrelated to all other items on the questionnaire. The author's opinion is that while there was a significant difference in the average age of the two groups, this was not a factor that could explain the differences presented below.

TABLE 1

**Means and Standard Deviations of Subjective Assessments
of the Safety of the Work Environment**

To what extent do you feel:[a]	Group A (N = 27)	Group B (N = 25)	Significance of Difference
Your work environment is safe?	2.52 (1.221)	3.04 (1.43)	N.S.
You are exposed to safety hazards during your daily work?	3.04 (.898)	3.20 (1.00)	N.S.
You, personally, have a chance of being involved in an accident at work?	3.30 (.912)	3.28 (.891)	N.S.

Note: Standard deviations are in parentheses.
[a] A lower score indicates a perception of a "safer" environment.

Results

Table 1 presents the assessments of the men in each group of three dimensions of plant safety. Men in both Group A and Group B reported they were sometimes exposed to safety hazards, that there was some likelihood they would be involved personally in an accident at work, and that, overall, their work environment was quite safe. None of the differences were significant.

The men in each group assessed the behavior of their managers with respect to safety matters as indicated in Table 2. The data seem to suggest that while Manager B emphasized formal aspects of safety slightly more than did Manager A, Manager A seemed to be more approachable and was perceived as being more concerned about safety. Again, the differences are not significant.

To this point, the perceptions of the two work groups have been very similar. Table 3 shows the differences in responses of members of the two groups to a question regarding the extent to which operators felt their superior was interested in their general welfare. Manager A was perceived

TABLE 2

**Means and Standard Deviations of Subjective Assessments
of Managers' Behavior with Respect to Safety Matters**

	Group A (N = 27)	Group B (N = 25)	Significance of Difference
Does your manager direct attention towards safety practices?	3.52 (.753)	3.64 (.907)	N.S.
How fast does your manager act on requests or suggestions concerning safety?	3.19 (1.39)	3.28 (1.49)	N.S.
To what extent do you express concerns about safety to your manager?	3.15 (.718)	2.80 (.957)	N.S.
To what extent do you feel your manager is concerned about your safety?	3.96 (.854)	3.60 (1.291)	N.S.

Note: Standard deviations are in parentheses.

TABLE 3

Means and Standard Deviations of Subjective Assessments of Managers' Interest in the General Welfare of Operators

	Group A (N = 27)	Group B (N = 25)	Significance of Difference
To what extent do you feel your manager is interested in your general welfare?	3.41 (1.047)	2.72 (1.061)	$p < .05$

Note: Standard deviations are in parentheses.

to be significantly more interested in the general welfare of his subordinates than was Manager B.

Based on the proposition formulated earlier, it would be expected that subordinates in Group A would see little relationship between the safety related behavior of their manager and the safety of the work environment. Subordinates in Group B, perceiving less interest in their general welfare from their manager, would be expected to consider the safety of the work environment to be strongly linked to their manager's behavior. This can be checked by examining the correlations between the two sets of variables.

Table 4 presents the relevant correlations. The expected relationship is most clearly demonstrated in the correlations with subordinates' overall assessments of the safety of the work environment (Column 1). Operators in Group B associate the safety of the work environment with all four assessments of their manager's behavior. The same correlations for Group A are all low and insignificant. Similar associations appear with the extent to which operators feel they are exposed to safety hazards (Column 2). In Group B, three out of four correlations are highly significant. In Group A, these same correlations all are low. Thus the original proposition seems to be confirmed as it relates to organizational safety.

The proposition is not confirmed as far as personal safety is concerned. Subordinates' assessments of the likelihood that they personally may be involved in an accident were strongly associated with managers' behavior in both groups (Column 3). As managers responded to requests and suggestions about safety faster, and as they were more concerned about safety, the less likely were subordinates to think that they, personally, might be involved in an accident.

Implications

Many managers complain that subordinates depend on management to maintain a safe work environment. They emphasize that subordinates should take responsibility for safety matters. The findings of the present study suggest that whether subordinates associate safety with their manager's safety related behavior may depend on the extent to which they perceive their manager as being interested in their general welfare. That is,

TABLE 4

Correlations Between Subordinates' Assessments of Managers' Safety Related Behavior and Their Assessments of the Safety of the Work Environment

	(1) Work Environment is Safe Group		(2) Exposure to Safety Hazards Group		(3) Personal Likelihood of an Accident Group	
	A (N = 27)	B (N = 25)	A (N = 27)	B (N = 25)	A (N = 27)	B (N = 25)
Does your manager direct attention toward safety practices?	.03	—.60**	.25	—.51*	—.18	—.44*
How fast does your manager act on requests or suggestions concerning safety?	—.04	—.59**	—.35	—.57**	—.68**	—.66**
To what extent do you express concerns about safety to your manager?	.08	—.42*	.17	—.26	.17	—.13
To what extent do you feel your manager is concerned about safety?	—.20	—.51*	.00	—.52*	—.43*	—.44*

* $p < .05$
** $p < .01$
Significance levels reflect two-tailed tests.

through the support he or she provides, the manager may significantly influence the way subordinates think about safety.

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