

The Development in Japan of the Performance-Maintenance (PM) Theory of Leadership

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Beginning with replications of the experimental study by Kurt Lewin et al., the PM Theory of Leadership has been developed in Japan as an extensive interdisciplinary and intercultural approach to leadership. The performance leadership function (P) is oriented toward goal achievement or problem solving, and the maintenance leadership function (M) oriented toward preserving group social stability. Any concrete leadership behavior reflects varying degrees of each function. By using our new paradigm, the validity and reliability of PM leadership measurement were examined not only in specific, particular situations but also in more universal situations, not only in descriptive, phenotypic studies of leadership in field research but also in genotypic studies of leadership conducted in laboratory situations.

It was after World War II that Group Dynamics, developed in the United States, was introduced into Japan. As part of the postwar U.S. occupation policy, the United States conducted a three-month educational program known as the Institute for Educational Leaders (IFEL) for Japanese educational leaders in Tokyo, Kyoto, Fukuoka, and other major Japanese cities. One of the lecturers for IFEL introduced applied group dynamics, centering around “how to run group meetings.” This gave impetus to the subsequent development of Japan’s group dynamics. Kurt Lewin, who had been well known in Japan as a Gestalt psychologist even before he started developing group dynamics, was a seminal influence on the Japanese social psychologists involved in this new endeavor.

The Japan Group Dynamics Association was formed at Kyushu University in 1949, four years after Lewin established the Research Center for Group Dynamics at the Massachusetts Institute of Technology (MIT).

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Today, the Japan Group Dynamics Association has a membership of 750, and publishes its journal three times a year, twice in Japanese with English abstracts, and once entirely in English. The latest issue of the *Japan Group Dynamics Journal* (March 1995) is Vol 33, No. 3. The association holds an annual national convention every year, its 42nd Convention was held at Kyushu University in November 1994.

The study of experimental social psychology has recently been increasing in Japan, and the fields it covers have become diversified. Unfortunately, however, too many of these studies are in the nature of follow-ups on similar studies in America and other countries, and very few of Japanese studies are unique and creative enough to take your breath away. Nevertheless, I would like you to take a close look at the details of some studies in Japan. You could probably find something that indicates the development of Japan's peculiar problems—problems that are not seen in the United States.

To illustrate Japanese group dynamics research, I would like to give you a summary of one of the two main lines of work in which my colleagues and I have been involved for some time: the development of the *PM Leadership Theory*.¹ I will start with a bit of historical background and then trace how the theory has evolved and been tested since the 1950s. Based upon my experience with this program of research, I will conclude by offering a few observations on the generality of scientific findings.

Leadership PM Theory: An Interdisciplinary and Intercultural Approach to Understanding Leadership

As I mentioned at the outset, the General Headquarters of The Supreme Commander for the Allied Powers carried out a series of programs at universities in major cities in Japan under the title of Institute for Educational Leaders (IFEL). It was through the IFEL program that I became familiar with the work of Kurt Lewin (1939), and the procedures and results of Lippitt and White's (1943) research. As a student who participated in the program, I had some doubts as to whether or not the results obtained in the experiments conducted in the United States could be duplicated in Japan. Thus, I decided to undertake a follow-up study in Fukuoka.

The children in our study (Misumi, Nakano, & Ueno, 1958; Misumi & Nakano, 1960; Misumi & Okamura, 1961) were 10- and 11-year-old boys, the same as in Lippitt and White's study. We tried to follow as closely as possible their experimental conditions of the three leadership types, i.e., democratic, autocratic and laissez-faire. However, our working hypothesis was that because

¹The other major line of our work has been action research on group decision. Our efforts have been aimed at reducing accidents among bus drivers and shipyard workers. An English language summary of our studies is available from the author.

of differing sociohistorical conditions between the two countries, group dynamics in Japan would differ from those in American society. However, we were surprised to find almost the same group dynamics as did Lippitt and White. This does not mean that all responses to the leadership conditions by subjects in both countries were the same. We found, rather, that even if the phenotype, the way in which the attitudes and behaviors of the subjects were expressed, differed between the two countries, the genotype, the underlying cause of the phenotype, was the same.

Differences were found in the phenotype of the reactions of the two groups of children. For example, in response to an autocratic leader, American children were more aggressive than Japanese children, who were more obedient. However, when we compared democratic, autocratic, and laissez-faire styles in order to consider the results of the experiment as a whole, we obtained results very similar to Lippitt and White's. The Japanese children, who had spent their important early formative years under militaristic totalitarianism, did not therefore prefer the autocratic leadership style. Under democratic leadership, they showed relatively similar behavioral patterns to those of the American children who were brought up in a democratic country.

In our second study (Misumi & Nakano, 1960) related to Lippitt and White, the children were given two different problem situations. In the first one, they were to draw a picture together; in the second one, they were asked to construct a model of their school. The finished products were evaluated by experts on arts and crafts. The results showed that the effects of leadership differed according to the conditions and nature of the task. That is, while in relatively easy tasks such as drawing a picture, the democratic groups were found to be more effective than the autocratic and laissez-faire groups; in relatively difficult tasks, such as constructing a model of a school, the autocratic groups were the most effective.

Since no researcher in the field of leadership was advocating a contingency model at that time, our research can be considered as a starting point of the contingency approach. Fiedler's contingency theory (Fiedler, 1967) dates only from 1964. The tasks chosen for Lippitt and White's study were recreational, while ours were related to classroom curriculum. Consequently, Lippitt and White's tasks were interesting for the children, conducive to voluntary participation, and therefore probably increased receptivity to democratic leadership. The effectiveness of leadership was found to differ in relation to the problem situation. Thus, leadership style itself should be considered as contingent upon the task situation. The behavioral classification concerning leadership types employed by Lippitt and White are from common usage. However, classification by common usage has the following limitations.

First, it is unidimensional—democratic/autocratic, conservative/progressive, liberal/authoritarian, hawk/dove, employee centered/production centered—rather than multidimensional.

Second, the terms used in this classification have multiple meanings in common usage, which makes them difficult to operationalize.

Third, these terms are heavily value-laden.

Fourth, the categories are used as historical concepts and functional concepts.

The PM Leadership Concept

As a remedy, we developed the leadership PM concept, which (1) allows multidimensional analysis, (2) can be operationally defined, (3) is itself value-neutral, and (4) makes possible experimental research and statistical studies. Measuring leadership, which is very much a group phenomenon, requires a group functional concept like the PM concept (Misumi, 1985).

In the concept of PM, P stands for performance and represents the kind of leadership that is oriented toward achievement of the group's goal and problem solving. Being an abbreviation of maintenance, M stands for the kind of leadership that is oriented toward the group's self-preservation or maintenance and strengthening of the group process itself. These two conceptual elements (P and M) are similar to Bales' (1953) "task leadership" and "emotional leadership."

The concept of PM is a constructive concept to classify and organize the factors obtained from leadership at different levels. It is not merely a descriptive concept for the factors obtained from factor analysis, but is at a higher level of abstraction. Because of being abstract, the PM concept applies not only to industrial organizations, but also to many other social groups. P does not only concern production but also involves more general group goals or problem-solving tasks. This is what principally distinguishes the PM approach from Blake and Mouton's (1964) managerial grid model.

In the case of the PM concept, we consider P and M to be two axes on which the level of each factor can be measured (high or low), thus obtaining four distinct types of leadership (see Fig. 1). The validity of these four PM types was proved using correspondence analysis, which was developed first by Guttman (1950a, 1950b, 1950c, 1950d) and later by Hayashi (1956).

Early Validation of PM Leadership

Our research on the PM model consisted of both field surveys in different kinds of organizations and laboratory studies. Regarding measurement in the field, we found that evaluation by subordinates of their superiors was more valid than evaluation by superiors, peers, or self. We therefore had subordinates evaluate the leadership of their superiors on the P and M dimensions.

To determine the level of P and M leadership for each subject, we first calculated the mean score of all subjects on each item of the two dimensions (P

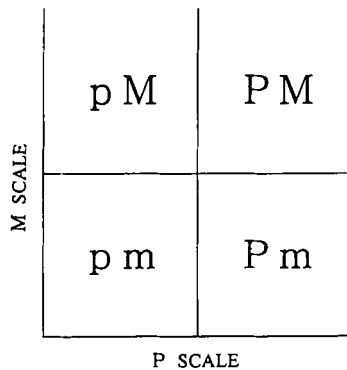


Fig. 1. Conceptual representation of four patterns of PM leadership behavior. [From Misumi (1984, p. 70). Copyright 1984 by Yuhikaku. Adapted with permission.]

and M). As discussed by Misumi (1984), these P and M items, represented in Table 1, are the results of factor analysis. A leader whose score in P and M is, for example, higher than the mean, is thought to provide leadership of the PM type. A leader whose score is higher than the mean only in the P dimension, is classified as providing a P-type (or Pm-type) leadership. When a leader's score is higher than the mean only in the M dimension, he or she is referred to as a M type (pM type). When a leader obtains a score lower than the mean in both dimensions, he or she is thought to provide a leadership of the pm type. This results in our final fourfold classification: PM, P, M, and pm.

To test the validity and reliability of these leadership categories in industrial organizations, we examined their relationship with some objective and cognitive variables such as productivity, accident rate, rate of turnover, job satisfaction, satisfaction with compensation, sense of belongingness to company and labor union, team work, quality of meetings, mental hygiene, and performance norms. More than 300,000 subjects were surveyed. As indicated in Table 2, of the four types, PM type was found to provide the best results, and pm type the worst. In the long run, M type ranks second, and in the short run, P type ranks second. It is noteworthy that this order of effectiveness is not limited to businesses only, but is the same for educators (Misumi, Yoshizaki, & Shinohara, 1977), government offices (Misumi, Shinohara, & Sugiman, 1977), sports coaches (Misumi, 1985), and religious groups (Kaneko, 1986).

A New Research Paradigm: Searching for Differences and Similarities

As a group phenomenon, leadership pertains to all the fields of social science. Consequently, for a better comprehension of leadership, an interdisciplinary perspective is indispensable. PM theory, more than any other leadership

Table 1. Factor Loadings of Main Items on Leadership

Items	Factor loadings		
	I	II	III
59. Make subordinates work to maximum capacity	.687	-.017	-.203
57. Fussy about the amount of work	.670	-.172	.029
50. Fussy about regulations	.664	-.072	.001
58. Demand finishing a job within time limit	.639	.070	.065
51. Give orders and instructions	.546	.207	.198
60. Blame the poor job on the employee	.528	.113	-.121
74. Demand reporting on the progress of work	.466	.303	.175
86. Support subordinates	.071	.780	.085
96. Understand subordinates' viewpoint	.079	.775	.229
92. Trust subordinates	.024	.753	-.003
109. Favor subordinates	.067	.742	-.050
82. Can talk to your superior without any hesitation	-.026	.722	.059
101. Concerned about subordinates' promotion, pay raise, and so forth	.147	.713	.134
88. Show consideration for subordinates' personal problems	.132	.705	.150
94. Express appreciation for job well done	.058	.651	.129
104. Impartial to everyone in work group	-.143	.644	.164
95. Ask subordinates' opinion of how on-the-job problems should be solved	.049	.643	.121
85. Make efforts to fill your request when you request improvement of facilities	.110	.606	.333
81. Try to resolve unpleasant atmosphere	.233	.538	.338
87. Give subordinates jobs after considering their feelings	-.276	.478	.457
76. Work out detailed plans for accomplishment of goals	.229	.212	.635
75. No time is wasted because of inadequate planning and processing	.038	.333	.614
70. Inform of plans and contents of the work for the day	.254	.278	.607
52. Set time limit for the completion of the work	.319	.299	.554
53. Indicate new method of solving the problem	.251	.489	.479
56. Show how to obtain knowledge necessary for the work	.295	.492	.472
61. Take proper steps for an emergency	.360	.451	.305
69. Know anything about the machinery and equipment you are in charge of	.255	.304	.458

Note. From Misumi (1984, pp. 94-95). Copyright 1984 by Yuhikaku. Adapted with permission.

theory, is the result of a broad interdisciplinary research program (Misumi & Hafsi, 1989; Misumi & Peterson, 1987).

This interdisciplinary orientation would have been difficult, if not impossible, without the existence of an adequate research paradigm.

One of the principal characteristics of PM Leadership Theory is, as indicated by the paradigm in Fig. 2, to apprehend the study of leadership in terms of

Table 2. The Summary of Comparison of the Effectiveness of Four Patterns of PM Leadership Behavior on Various Kinds of Factors of Work Group (the Figures in This Table Show the Ranking of Effectiveness in Each Factor)

		Pattern of leadership behavior			
		PM	M	P	pm
Productivity	Long term	1	2	3	4
	Short term ^a	1	3	2	4
Accidents ^b	Long term	1	2	3	4
	Short term ^a	1	3	2	4
Turn over		1	2	3	4
Group norm for high performance		1	2	3	4
Job satisfaction (a narrow sense)		1	(3)	(2)	4
Satisfaction with salaries		1	2	3	4
Team work		1	2	3	4
Evaluation of work group meeting		1	2	3	4
Loyalty (belongingness) to	Company	1	2	3	4
	Labor union	1	2	3	4
Communication		1	2	3	4
Mental hygiene (excessive tension and anxiety)		1	2	3	4
Hostility to supervisor ^c		1	2	3	4

(Measured by SD method)

Note. From Misumi (1984, p. 501). Copyright 1984 by Yuhikaku. Adapted with permission.

^aIncluding the data obtained by laboratory studies.

^bSmaller figures indicate lower rate of accidents or turnover.

^cSmaller figures indicate less hostility to supervisor.

two principal perspectives: (a) *behavioral morphology* and (b) *behavioral dynamics*.

Behavioral Morphology of Leadership

The morphological approach of behavioral morphology consists in identifying, describing, naming, and categorizing the forms of leadership in both general

	Situation	
	General	Specific
Behavioral-morphology dimension	General behavioral morphology	Specific behavioral morphology
Behavioral-dynamics dimension	General behavioral dynamics	Specific behavioral dynamics

Fig. 2. Paradigm of science of leadership behavior. [From Misumi (1984, p. 6). Copyright 1984 by Yuhikaku. Adapted with permission.]

and specific settings. This distinction is based on the idea that there are both universal and particularistic leadership situations. For instance, although the PM type was found to be consistently superior to other leadership types, some change could be observed under some specific conditions.

In one of our experimental studies (Misumi & Seki, 1971), for instance, it was found that in the case of subjects with a low need for achievement (n-achievement; McClelland, Atkinson, Clark, & Lowell, 1953) P-type leadership was the most effective, followed by the PM type. However, in the case of subjects with high n-achievement, the results were similar to those obtained in field surveys, with PM being the best. How can we explain the relationship between the results obtained in the experimental study and those of the field survey? The answer that may be suggested is that the field survey subjects' or subordinates' n-achievement was similar to the subjects' high n-achievement in the experimental study. In other words, the fact that PM leadership was the most effective (like in the experimental study) was the result of the subordinates' high (mean) n-achievement in field survey. Hence, the rank effectiveness of the four PM leadership types is not always the same in every setting or situation. Determining the similarities and differences between different leadership situations is the task of the morphological approach.

Since our early experimental and field studies—which served to validate the fourfold PM typology and develop a general morphology of leadership—our research program has evolved toward the study of leadership in specific situations. This corresponds to the specific behavioral morphological approach.

As Misumi and Peterson (1987, p. 150) put it, most leadership researchers “are easily tempted by the motive to insure comparability between studies by using inflexible measures that ignore important differences between different settings.” Although the early Ohio studies had overcome this deficiency (Halpin & Winer, 1957) by developing different scales for various settings (military, educational, industrial), less importance was attached to the distinctive characteristics of particular settings in the 1970s (e.g., Kerr & Schriesheim, 1974). Unlike these studies, the PM leadership research program was not, from the early stages, tempted by this methodological ideal of a “generalizable” measure. It opted rather for the elaboration of a scale for each specific leadership situation (industrial organizations, public administration, government offices, political groups, religious groups, schools, family etc.), taking into consideration the opinion of professionals involved in each situation. For industrial organizations only, we developed a scale for foremen (production foremen and administration foremen), and scales for middle managers, higher managers, and top managers.

In this sense, PM theory is, methodologically, a situational approach. However, according to the general findings of a large number of various field surveys,

the leadership effectiveness ranking is consistently the same. That is, in the case of many kinds of leadership situations the PM type was, as discussed above, found always to be the most effective and the pm type the least effective, with the other two leadership types (P and M types) in between. A summary of the results of the studies involved in the behavioral morphology is found in Misumi and Peterson (1987).

Behavioral Dynamics of Leadership

The behavioral morphology approach alone is, however, not sufficient to apprehend the leadership phenomenon. We need also a complementary approach that helps ascertain the causal laws that govern or determine the effectiveness of leadership. This approach involves (1) helping to understand the reasons why the PM-type leadership is consistently the most effective and the pm type the least effective, (2) providing us with knowledge concerning the differences due to n-achievement found in the laboratory, as discussed above (Misumi & Seki, 1971), and (3) explaining the difference found between experimental and field studies in terms of each leadership effectiveness order.

Like behavioral morphology, behavioral dynamics can also be further subdivided into *general behavioral dynamics* and *specific behavioral dynamics*, depending on the degree of abstraction being considered (specific or general).

In the behavioral dynamics area, field research using quantitative behavioral methods has been complemented by laboratory research. In our research on PM theory, we have consistently used concepts and methods from experimental psychology, including sensory-motor learning, reminiscence (Misumi & Sato, 1968), memory reproduction (Yamauchi & Yamaguchi, 1973), psychophysiological studies (Kawazu, Misumi, Ogawa, Osato, & Miyamoto, 1979), and psychoanalysis (Hafsi, 1988). For readers interested in the details, a summary of the findings of these studies are provided in Misumi (1985).

As one of the studies on PM Leadership Theory, as it relates to the dimension of leadership behavioral dynamics, efforts have been made in recent years to investigate the relationship between leadership behavior and causal attributions for the results of group performance (Kinjyo, 1993; Sato & Konoha, 1985; Sato & Shinya, 1985; Sato & Tanaka, 1982; Takezawa, 1988). Those studies compare, among the respective types of PM leadership, how the results of performance are attributed. In the case of high performance, attributions to the appropriateness of leader's behavior are highest for the PM type, followed by M-type leaders. When it comes to low performance, attributions to the inappropriateness of leader's behavior are highest for the pm type and pressure behavior-centered P-type leaders.

To conclude this section, it is noteworthy that this manifold emphasis is,

methodologically and conceptually, made possible by (1) the use of a concept, PM, which can apply to different (specific and general) leadership situations; and (2) the conception of leadership behavior in terms of a quadritypology.

Recent Developments in the Behavioral Dynamics of PM Leadership

A large number of studies were conducted, attempting to answer the questions of behavioral dynamics, namely (1) the reasons underlying the superiority of the PM type, (2) the discrepancy between laboratory and field studies in terms of the effect of the pm type, and (3) the relationship between M behavior and two distinguishable aspects of P behavior, Planning and Pressure. With regard to the superiority of PM-type leadership, it was found that a PM leader, though high on both types of behaviors, displays P and M behaviors less frequently than do P-type and M-type leaders, respectively (Fujita, 1975; Misumi & Seki, 1971; Sato, 1968). However, as discussed above, the PM-type leadership is always the most effective. The effect of the PM type is not the sum (additive effect) of the P and M types. Its effect lies rather in the interaction (the interactive effect) of these two types. This corresponds to the hypothesis of $P \times M$ interaction (Misumi, 1985).

The results of field surveys showed that one factor related to P leadership behavior was what is called the *Pressure Factor*. This factor reflects the instructions and orders given by the leader, and since it is always felt to some degree in the workplace, it causes some psychological resistance in subordinates.

According to our hypothesis, due to the pressure inherent in it, P behavior functions to promote performance during early stages, while M functions to expel or assuage the psychological resistance to this pressure and eventually to increase the subject's motivation. The interaction of P with M makes the pressure component undergo a qualitative change from a heavy external pressure to a motivational force.

Subordinates will continue to work with a certain amount of the psychological resistance caused by the Pressure Factor. However, once the resistance exceeds a certain level, it becomes difficult to make them work under the leader's pressure. That leads to a drastic decline in the leader's influential power.

To counter this situation and maximize the influence of leadership behavior, the psychological resistance caused by the Pressure Factor needs to be reduced as much as possible. This is the function that M leadership behavior is expected to fulfill.

The interactive effect of P and M is supported by number of studies. For instance, a study of the relationship between leadership types and social power (Misumi, 1985) indicated that what Raven and French (1958) call coercive power and reward power were reflected much more strongly in P-type leadership than in the other types. In contrast, M leadership reflects referent power more than the

other types, while the pm type was associated principally with legitimate power. On the other hand, the resort to expert power in the PM type was far greater than in both the P type and M type, separately.

The hypothesis concerning the interactive effect of P and M was further confirmed by Fujita's (1975) experimental study on the relationship between the *Einstellung* (mind-set) effect and PM leadership types.

It has been demonstrated in the laboratory and field that PM-type leadership surpasses the other three for simple, mechanical, repetitive tasks. But what about situations that require problem solving and creative thinking? Any process of problem solving may be understood as function of an *Einstellung*, a term introduced in Gestalt psychology to describe the process by which an individual develops a particular approach to problem solving. An *Einstellung* can be rigid and uncreative, or flexible and creative. Experimental research with the three jars problem (Luchins & Luchins, 1959) has indicated that, under some conditions, subjects become fixated on one particular method of problem solving and will continue using it even for similar problems that are better solved in another way. When this is the case, a rigid *Einstellung* has developed. Creative thinking requires, on the contrary, a flexible, receptive *Einstellung*.

To investigate the effect of the four PM leadership types on the development of *Einstellung*, we conducted two experiments. In one of these experiments, we investigated the effectiveness of the four types of PM leadership on the solving of a simple arithmetic problem. The purpose was to see whether the subjects solved a simple arithmetic problem using a given method, or whether they flexibly used other, better alternative methods. Results showed that under P-type leadership fixed, habitual sets were most likely to develop, while under PM-type leadership these fixed or rigid *Einstellung* were least likely to develop.

In a related experiment, subjects were instructed that they would be given electric shock if they did not escape from a graphically displayed maze within a given time limit. They were then led from the maze using three PM styles of leadership (the pm style was not used). Results showed that fixation, or the tendency to move back and forth between the same route within the maze, occurred least frequently under PM leadership, and thus the distance covered in escaping was also the least. Distance covered was second for M leadership, and most for P-type leadership. These fixation tendencies are similar to the *Einstellung* effect. In addition, these results show that PM is the most effective style of leadership, and indicate that the effectiveness of PM is the result of the synergetic effect of P and M together, rather than the sum of their separate effects in creative problem solving situations.

To study the effects of the Pressure Factor of P leadership behavior, we conducted the laboratory experiment that deals with reminiscence (Misumi & Sato, 1968). Subjects were asked to copy the letters of the alphabet in reverse, as many as possible in a fixed amount of time.

Leaders provided directions according to each of the four PM leadership types, and the amount of work accomplished under each type of leadership was determined. The results showed that, in the pretest stage of the experiment, the most work was accomplished under the P type of leadership.

This task was relatively simple. However, this does not mean that the results are always the same in simple tasks. In another experiment with a different simple task (i.e., counting the holes in IBM punch cards in groups of three), the most work was accomplished under PM leadership, followed by P leadership. A simple comparison of the results of these two experiments seems to reveal differences. However, even in the IBM cards experiment, when the subjects' motivation was low, the most work was achieved under P Leadership (especially in the pretest stage).

That P leadership is the most effective way (in the short run) to make subjects with low motivation do monotonous boring work can be interpreted as the result of the Pressure Factor contained in P leadership. We were able to find the effects of the Pressure Factor not only in the laboratory, but also in field studies involving businesses, government offices, and other workplaces.

In summary, P leadership causes psychological resistance in the followers, but this can be ameliorated and alleviated by the appropriate application of M behavior. The PM type of leadership should surpass the other three leadership types in arousing internal motivation. This is the hypothesis we propose to explain the effectiveness of PM leadership.

This hypothesis includes the assumption that the superiority of PM-type leadership under optimum conditions is not merely the result of the sum total of the separate effects of P and M, but also of the geometric effect of the interaction between the two.

“Chashaku” (Hockey Stick) Curve Hypothesis

The *Chashaku* (hockey stick) curve hypothesis refers to a dynamic recently found in studies of the relationship between M behavior and Pressure P. As one method of analyzing the synergism of P and M, we used data gathered over the past 20 years from over 30,000 members of large organizations. We analyzed the relationship between Pressure P and M factors (Misumi, Maiya, Arima, & Hafsi, 1990). As presented in Fig. 3, the results showed that with increasing M, Pressure P scores tend to decrease, but as M scores increase beyond the middle range, Pressure P scores begin to increase somewhat. In other words, as M scores go from low to high, Pressure P scores form a curve shaped like a mirror image of the letter “J,” or a Japanese traditional tea ceremony spoon, called “Chashaku,” and not, as previously thought, a perfect U-curve.

Figure 3 indicates the results for one of the banks, Sumitomo Shintaku, located in Osaka Prefecture, which was surveyed once a year for a period of 5 years (Iwai & Misumi, 1985). A number of the other companies were also

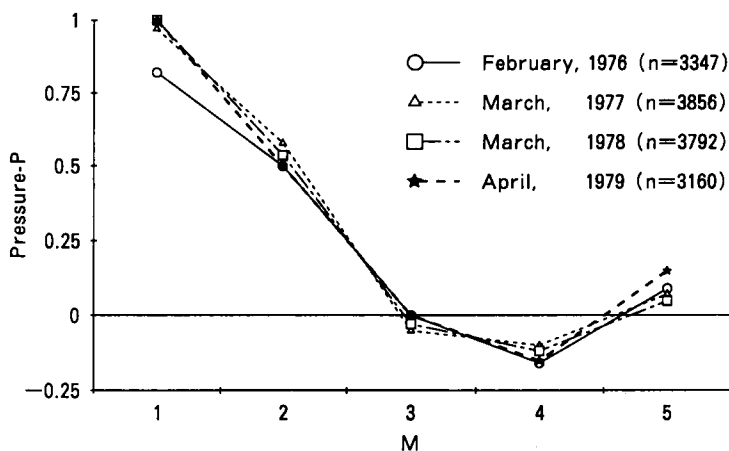


Fig. 3. The curve of Pressure-P factor score as a function of M score for Sumitomo Shintaku Bank in four surveys. [From Misumi and Maiya (1994). Copyright 1994 by Asakura Shoten. Adapted with permission.]

surveyed, including two subsidiaries of the Hitachi Shipyard and the Bridgestone tire company; the results consistently indicated a hockey stick curve, similar to the one represented in Fig. 3.

The hockey stick curve shows that when the M score is lower than average, Pressure P increases with a decrease in M scores. This means that psychological resistance must also increase as M decreases.

But how can we interpret the upturn in this curve, showing that when the M scores are above average, P pressure scores begin to increase, with an increase in M scores?

To interpret these results, we hypothesize that the characteristics of Pressure P change, depending on whether M scores are lower or higher than average. When the M score is lower than the average, the increase in the Pressure P score is experienced as external pressure. On the other hand, when the M score is higher than the average, Pressure P changes qualitatively from "external" pressure to a feeling of tension of a moderate intensity. This moderate tension fulfills, for the subject, the function of an internal motivational force. Owing to this internal tension, subordinates operating under a leader who gives them abundant support and consideration feel Pressure P in the form of expectations (from the leader) they should dutifully fulfill.

Discussion

Modern scientific behavioral research commences always by the observation of a given situationally specific phenomenon. However, to be scientific, the results obtained should not apply only to that specific situation, but also to a

wider number of situations characterized by the same basic aspects. Scientific finding should thus emphasize not only the specific, but also the general aspects of the phenomenon being studied. For, when the specificity is defined in relation to the generality, it becomes clearer.

Moreover, modern science can not also be satisfied by the so-called old grand theories. These theories mainly address general phenomena and are not deduced from the situationally specific. As such, these grand theories neither define the relationship between specific phenomena nor try to predict or control these specific phenomena.

Needless to say, modern science does not search for the universally valid truth. This truth is a probabilistic hypothesis and its universality is a hypothetical universality. In this sense, generality is a temporary phenomenon, not an eternal truth. For when an exception is found, its generality is lost. Nevertheless, this does not mean that generality should be neglected. Without the generality, which binds conceptually the separate and contingent phenomena, genuine predictability would not be possible.

Hence, to obtain a scientific finding that applies to both specific and general aspects, it is indispensable to develop appropriate concepts and methods. We have proposed here the scientific concept of PM leadership and a new research paradigm, hoping this will help leadership research escape from its methodological blind alleys. According to a recent leadership literature review (Hunt, 1991), the usefulness and the need of this PM paradigm is beginning to be felt.

In conclusion, I should remark that, unlike the grand theories, PM leadership theory is not a theory that applies only to specific leadership. It also applies to leaders in many other social and industrial situations. Consequently, thinking of PM leadership theory as a mere contingency model depending on a given situational variable is to make the mistake of thinking that one of four leadership approaches indicated in our paradigm is representative of the whole.

This is our approach to the behavioral science of leadership, comprising a behavioral morphology and a behavioral dynamics, each with its specificity and generality. In this sense, it is different from current social science research. The latter lacks the category of general behavioral morphology and cross-disciplinary perspective. A balance must be struck among the four areas of the above-mentioned paradigm, if there is to be productive interdisciplinary research.

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