

## DOCUMENT RESUME

ED 080 824

CE 000 037

AUTHOR Pinder, Craig; And Others  
TITLE Behavioral Style and Personal Characteristics of Managers.  
INSTITUTION Minnesota Univ., Minneapolis. Center for the Study of Organizational Performance and Human Effectiveness.  
SPONS AGENCY Office of Naval Research, Washington, D.C. Personnel and Training Research Programs Office.  
REPORT NO TR-5006  
PUB DATE Jun 73  
NOTE 35p.

EDRS PRICE MF-\$0.65 HC-\$3.29  
DESCRIPTORS \*Administrator Characteristics; \*Behavior Patterns; \*Personality Assessment; \*Personality Studies  
IDENTIFIERS \*Managers

## ABSTRACT

The present study investigates the relationship between managerial style and certain personal characteristics of managers. A sample of 200 American managers is utilized for this purpose. The necessary data were collected using a Personal Values Questionnaire, a biographical questionnaire and an inbasket exercise. The managers were first classified into three different managerial style groups. The three groups were then compared for significant differences among them on thirteen personal characteristic variables. This analysis revealed such a difference on two variables--age of managers and the department in which they worked. In general, younger managers tended to be more autocratic and inclined to make quick decisions without consulting their coworkers. The older managers, on the other hand, appeared to be more consultative and human relation oriented. It was also found that managers in sales departments displayed more a "quick and autocratic" style than those in the other departments who tended to be either more consultative or human relations oriented or both. [A 27-item bibliography is included.]  
(Author)

FILMED FROM BEST AVAILABLE COPY

ED 080824



**THE CENTER FOR THE STUDY OF  
ORGANIZATIONAL PERFORMANCE  
AND  
HUMAN EFFECTIVENESS**

University of Minnesota  
Minneapolis, Minnesota

Office of Naval Research Contract  
ONR N00014-68-A-0141-0003

U.S. DEPARTMENT OF HEALTH  
EDUCATION & WELFARE  
NATIONAL INSTITUTE OF  
EDUCATION  
1650 MICHIGAN AVENUE, N.W.  
WASHINGTON, D.C. 20037

Approved for public release; distribution unlimited

ERIC  
Full Text Provided by ERIC

ED 080824

Reproduction in whole or in part is permitted for any  
purpose of the United States Government

This research was sponsored by the  
Personnel and Training Research Programs  
Psychological Sciences Division  
Office of Naval Research  
under Contract No. N00014-68-A-0141-003  
Contract Authority Identification Number, NR No. 151-323

Behavioral Style and Personal  
Characteristics of Managers

Craig Pinder  
Patrick R. Pinto  
George W. England

Technical Report No. 5006

Approved for public release; distribution unlimited

## BEHAVIORAL STYLE AND PERSONAL CHARACTERISTICS OF MANAGERS <sup>1</sup>

Craig Pinder, Patrick R. Pinto and George W. England

Since the turn of the century, increasing attention has been paid in American industry to the importance of management and managerial skills. Campbell, Dunnette, Lawler and Weick (1970) have written that "the key occupational group in an industrial society is management (p. 1)." Organizations of all types are spending more time and resources on the identification and development of managerial talent, and the cultivation of effective behavioral styles. In fact, many organizations are growing to realize that the management of their managerial resources is itself a management responsibility of top priority.

Since the early work of Kurt Lewin and his associates (see for example, White and Lippett, 1968), scientists have conducted extensive research investigating leadership, usually focusing on the leader himself, on the basis of the belief that management is, in effect, leadership applied in organizational settings. In much of their research, investigators have concentrated their attention upon the personal characteristics, typically concluding that the effective manager is unusually dominant, intelligent, assertive, energetic, well-liked, and generally possesses most favorable personality traits. (For example, see Hicks and Stone, 1962; Mahoney, Jerdee and Nash, 1960.)

However, as pointed out by Campbell, et al. (1970), the net result of this "trait" research is a list of attributes characterizing the effective manager which includes almost the entire spectrum of human virtue. They

---

1. The authors express gratitude to T. J. Keaveny for the use of his dissertation data.

argue that these traits are "loosely defined," and hence do not enable us to "pinpoint with sufficient precision the behavioral elements making up effective management."

Reddin (1971) and others have argued that managerial effectiveness is a matter of outputs, rather than one of inputs such as personal traits and characteristics. Therefore, a more meaningful approach to the study of effective management would involve an emphasis upon managerial behavior.

Research studies conducted at Ohio State have been directed at such behavioral characteristics of managers (Fleishman, 1953; Fleishman and Peter, 1962). In analyzing the Ohio State data, Halpin and Winer (1957) suggested that two variables, "consideration" and "initiating structure," accounted for enough variance in leadership behavior to be worth considering. Korman (1966) reviewed the research concerning these two factors and noted that it is not clear whether organizational outcomes lead to high consideration or structure, or vice versa. Lowin, et al., (1969) experimentally manipulated these variables to investigate possible causal relationships, and concluded that consideration was related to productivity, quality and job satisfaction, but structure was not.

Another major series of studies concerned with managerial style has been carried out at the University of Michigan. In an excellent integrative article, Powers and Seashore (1966) noted that a great deal of "conceptual content" is held in common among the style formulations described by the Michigan and Ohio State investigators. The four basic dimensions of leadership style that they found to be common among the different research formulations were: "support", "interaction facilitation," "goal emphasis", and "work facilitation."

Another trend has been the study of the several context variables which interact with managerial style to achieve effectiveness. In Fiedler's model (1967), leader effectiveness is a function of effective leader-group relations,

task structure and leader position power. Campbell, et al., (1970) stated that most environmental variables can be categorized in a taxonomic scheme including: (1) structural properties (organizational constraints, rules and "red tape"); (2) environmental characteristics; (3) organizational climate (degree of autonomy, reward and punishment practices, etc.); and (4) formal role characteristics.

### Managerial Style and Managers' Characteristics

In the foregoing brief review of the salient trends in the management literature, it can be seen that investigators have focused primarily on either the behavioral styles of effective leadership or the personal attributes which distinguish successful managers, or have related traits or styles to organizational criteria. The empirical research to date, however, has not included any notable attempts to interrelate these two predictors of effectiveness. That is, descriptive and predictive models in which personality or behavioral variables have been studied (individually, or in conjunction with contextual variables) and related to dependent variables such as quantity or quality of output, satisfaction, or other dependent variables, have been numerous. However, there has been an obvious paucity of research directed at investigating the relationships between managerial style on the one hand, and managerial characteristics on the other. For example, few investigators have reported whether "consideration" is greater among young managers than among older managers. No research has been attempted to relate specific managerial styles to specific managerial demographic variables such as income, sex, education, or personality, although Fleishman (1953) and Rossel (1970), have studied managerial level in relation to style variables.

The present research is an attempt to isolate and study such relationships. Using the responses of 200 managers on an inbasket exercise, subjects were sorted into subgroups of similar behavior styles, and within-group similarities and

between-group differences were studied in terms of several demographic variables.

### Method and Results

The data used in this study were gathered by England and his associates as part of an ongoing research project which has been directed toward the study of managerial values and managerial behavior. (England, 1967, 1968; England and Keaveny, 1970.)

#### Subjects

The sample consisted of 200 American managers who were selected from the University of Minnesota School of Business Administration according to their dates of graduation. Graduates from 1920 and every fifth year thereafter were selected. Managers represented a wide variety of industries and departments. There were great differences in their annual incomes, ages, and years of experience, and they were drawn from companies ranging in size from fewer than 50 to greater than 300,000. Only five of the 200 subjects were female, and although all had completed college, some managers had taken some post-graduate training.

#### Variables Investigated

All subjects completed the Personal Values Questionnaire (1965),<sup>2</sup> an instrument which assesses an individual's set of values in terms of the importance he

- 
2. Using this instrument, it is possible to categorize a subject's primary values orientation (PO) as either pragmatic, moralistic, affect-oriented, or mixed. "Pragmatists" are defined as those subjects who place importance upon the majority of their valued concepts because of the success they perceive to be related to these concepts. "Moralists" attribute the importance of those concepts which they value to their rightness or appropriateness. "Affective" individuals perceive certain concepts to be of importance because of the esthetic pleasure they associate with them. Finally a "mixed" category is used to classify those individuals whose PO is not purely pragmatic, moralistic, or affective.

places on each of 66 concepts, such as authority, organizational efficiency, social welfare, individuality, etc. Included in the questionnaire are five items drawn from Hoppock's Job Satisfaction Blank (Hoppock, 1935) which measured the manager's job satisfaction.

Subjects also completed a biographical questionnaire which contained pertinent items relating to their professional background and present status as managers, as well as completing an inbasket exercise.

For the inbasket test subjects were instructed to assume the role of a divisional manager of a fictitious manufacturing firm, an executive who had recently returned to his job after a period of absence. Background information relating to the man, the firm, and the general business situation was provided. The task involved responding to 16 memos and letters which had been sent to his office during his absence. The items related to problems within the firm as well as to customers, suppliers and community figures. There were 46 variables of behavior on which the subjects' responses were scored, although only the 15 dimensions which had acceptable inter-rater reliability were used in the present study. Reliability of the instrument was determined by comparing the ratings of two carefully trained research assistants who scored the managers' responses on the original 46 variables. The distributions of 200 managers on each item were generally skewed, with the modal score often a zero. Since these variables lacked dispersion, they were judged as being of little value in a study of differences among behavior styles. These variables, as well as those for which inter-judge reliability was low, were eliminated. Table 1 presents the names and descriptions of the 15 inbasket variables.

An inbasket procedure was used to study managerial behavior so that the multiple measures of behavior provided by such a technique can circumvent the "single criterion" criticisms raised by Guion (1961), Ghiselli (1956), and Dunnette (1963).

Table 1

## Descriptions of inbasket variables used in subgrouping analysis

| Variable No. | Name and Description  |
|--------------|---|
| 1.           | <u>Takes Positive Action.</u> The manager causes action to take place -- decides, issues orders, or delegates; sets things in motion.           |
| 2.           | <u>Fluency of Response.</u> The overall number of ideas expressed in all of the manager's responses.  |
| 3.           | <u>Specificity in Scheduling.</u> Manager mentions a specific time, date, or day, by which or on which action is to take place.                 |
| 4.           | <u>Established Priorities.</u> Manager notes that some items require immediate handling, places "rush" on certain items.                        |
| 5.           | <u>Relates Items.</u> Manager interrelates the problems facing him and deals with two or more items together.                                   |
| 6.           | <u>Terminal Decisions.</u> The manager takes such action that he is finished with an item.  |
| 7.           | <u>Specific Orders to Subordinates.</u> The manager's instruction to his subordinates allow for no discretion or initiative on their part.      |
| 8.           | <u>Requests Information from Subordinates.</u> The manager asks for facts, information or advice from those under him.                          |
| 9.           | <u>Requests Information from Supervisors.</u> The manager asks for facts, information or advice from his seniors.                               |
| 10.          | <u>Calls for Discussion or Exchange of Ideas.</u> The manager asks to talk to others, inside or outside the company, before acting on an issue. |
| 11.          | <u>Requests Face-to-Face Contact.</u> Asks for personal contact with anyone.  |
| 12.          | <u>Explains Actions to Subordinates.</u> Manager explains the underlying reasons for his actions to his subordinates.                           |
| 13.          | <u>Informs Staff of Action Taken.</u> Manager communicates to his subordinates of action he has taken on any issue.                             |
| 14.          | <u>Courtesy in Dealing with Subordinates.</u> Uses responses with "please", "thank you", "I suggest", etc.                                      |
| 15.          | <u>Informality in Dealing with Subordinates.</u> Uses first names to address or to refer to employees, to sign memos, etc.                      |

That is, insofar as there is no valid means of assessing managerial performance using a single test or scale, the use of a multi-criterion, multi-scale instrument is desirable.

Studies conducted by Bray and Grant (1966), and the General Electric Company (1961) testify to the construct validity of the inbasket technique in making inferences regarding managerial behaviors on the job. The Bray and Grant research, for instance, indicated that inbasket results were highly related to staff judgments and to other indices of managerial effectiveness (including rate of salary progression), which were gathered in a study of assessment centers.

#### Subgrouping Technique

Subgroups of managers were derived using the hierarchical grouping analysis technique described by Ward and Hook (1963). This technique constructs a "profile" of each subject's scores on a set of variables, and then computes an index of similarity between the profile of each manager and that of every other manager. The  $D^2$  value (Cronbach and Glaser, 1953) was used as the metric for determining profile similarity. Subjects were combined into clusters, or groups, on the basis of their profile similarity. The technique is iterative, first combining similar pairs, then successively larger groups until all profiles are pooled into one total sample.

Using the Ward and Hook procedure, the subgrouping solution is determined from an investigation of the total within-group variance at each stage of the clustering. The criterion for this decision is the total within-cluster dissimilarity which is incurred at each stage of the cluster "countdown". The successive pairing of subjects involves an increase in the dissimilarity among members of the same group, since the group becomes more heterogeneous. Thus, an error term is derived as an inverse function of the number of groups extracted. That

point in the step-wise clustering where the error variance increases rapidly is the appropriate solution.

In the present study, profiles were composed of the managers' scores on the 15 inbasket variables defined in Table 1. Thus, managers were combined into clusters on the basis of the similarities among their behavioral style, as reflected by their inbasket responses. In this manner, the sample of 200 managers was reduced to three mutually-homogeneous and mutually exclusive subgroups.

The three clusters in the solution contained 109, 43 and 48 managers, respectively. In order to characterize each subgroup and to compare and contrast them, the clusters are described in Table 2 in terms of standard scores. Since there is no significance to the order in which clusters emerged from the analysis, they are referred to by the letters A, B and C, respectively.

#### Relationships Between Cluster Membership and Demographic Characteristics

The next step in the analysis was to investigate whether any relationships existed between certain demographic variables relating to the individual managers and their respective managerial styles. That is, since each cluster was composed of a group of managers who were relatively homogeneous in their behavioral response patterns on the inbasket exercise, we can conceptualize each cluster as representing a particular behavioral "style". We were then interested in whether certain styles were more characteristic of managers of different ages, job categories, personal income levels, and so on. A disproportionate number of managers in any cluster who fell within a certain income category, for instance, would suggest a certain relationship between managerial income and managerial style. Similarly, if a disproportionate number of managers in a given cluster had indicated on the Hoppock Job Satisfaction Blank that they were very unhappy with their jobs, we might infer a relationship between satisfaction and style.

Table 2  
Standardized Mean Variable Scores on 15 Clustering Variables

| Variable No. | Variable Name                             | A    | Cluster B | C     |
|--------------|---|------|-----------|-------|
| 1            | Takes Positive Action                     | .21  | .22       | -.69  |
| 2            | Fluency of Response                       | -.25 | .16       | +.43  |
| 3            | Specific Scheduling                       | -.48 | .71       | .43   |
| 4            | Establishes Priorities                    | -.36 | .95       | -.03  |
| 5            | Relates Items                             | -.02 | .03       | +.01  |
| 6            | Terminal Decisions                        | +.18 | .16       | -.55  |
| 7            | Specific Orders to Subordinates           | -.10 | .48       | -.21  |
| 8            | Requests information from subordinates    | -.43 | .01       | +.98  |
| 9            | Requests information from Superiors       | +.01 | .04       | -.06  |
| 10           | Calls for Discussion or Exchange of Ideas | -.41 | -.12      | +1.05 |
| 11           | Requests Face-to-Face Contact             | -.44 | -.01      | +1.01 |
| 12           | Explains Reasons for Acts to Subordinates | -.04 | +.38      | -.25  |
| 13           | Informs Subordinates of Action Taken      | -.28 | -.04      | +.66  |
| 14           | Courtesy in Dealing with Subordinates     | -.36 | +.35      | +.51  |
| 15           | Informality in Dealing with Subordinates  | -.22 | +.75      | -.19  |
|              | Sample Size                               | 109  | 43        | 48    |

Relationships were investigated between cluster membership and each of the following 12 demographic variables:

1. Primary Values Orientation: Each manager's responses to the Personal Values Questionnaire (PVQ) were scored such that his "primary orientation" could be determined using the technique developed by England and his associates (England, 1967).
2. Age.
3. Education: Since all managers had attended college, the group was subdivided two ways: first, by the college major of the manager; and second, according to whether the manager had attended graduate school for training in addition to his college degree. Because the vast majority of the sample had majored in business with only a few of the managers majoring in other fields, the sample was dichotomized into "business" and "non-business" categories.
4. Number of Years with Present Employer.
5. Total Number of Years as a Manager.
6. Number of Years as a Manager.
7. Annual Income.
8. Industry of Employment: Managers were classified by their industry of employment into manufacturing; wholesale and retail trade; finance, insurance and real estate; and others.
9. Size of Employing Organization.

10. Department: The types of department in which the managers were employed were categorized into production; operations; sales distribution; finance and accounting; research and development; general administration; and other.
11. Line or Staff: Managers were classified as being primarily line, staff, or mixed positions.
12. Job Satisfaction: A one-way analysis of variance was conducted to test the significance of overall differences among the mean satisfaction scores for the managers of each cluster.

Of the 12 demographic variables, only two were significantly related to cluster membership: manager's age ( $\chi^2 = 22.47, p < .001$ ) and manager's department ( $\chi^2 = 24.23, p < .05$ ). Two other variables, primary values orientation and educational level, were moderately related to the style differences ( $\chi^2 = 11.13, p < .10$ ; and  $\chi^2 = 5.36, p < .10$ , respectively).

A complete summary of the  $\chi^2$  tests between cluster membership and 11 of the demographic variables appears in Table 3. A summary of the analysis of variance conducted to test the significance of the differences between the mean cluster job satisfaction scores appears in Table 4.

#### DISCUSSION

By referring to Table 2, we can characterize the three behavioral styles in terms of their mean scores on the 15 variables.

Cluster A. Managers in Cluster A, compared to those in the other two groups, appeared to be autocratic -- "one man show" -- types of managers. They scored relatively high on taking positive action and reaching final decisions, but were relatively very low on the consultative behavior variables 8, 10, 11, and 13.

Table 3

Summary of  $\chi^2$  tests of association between  
managerial style and 12 demographic variables

| Cluster Membership vs:  | df | $\chi^2$ |
|-------------------------|----|----------|
| Primary Orientation     | 6  | 11.13    |
| Department              | 12 | 24.23*   |
| Line/Staff              | 4  | 7.15     |
| Time in Present Job     | 6  | 9.15     |
| Total Time with Company | 10 | 8.99     |
| Total Time as a Manager | 8  | 8.13     |
| Size of Organization    | 6  | 8.58     |
| Industry                | 6  | 5.82     |
| Manager's Age           | 6  | 22.47**  |
| Education Level         | 2  | 5.36     |
| College Major           | 2  | 1.37     |
| Annual Income           | 8  | 6.01     |

\* P < .02

\*\* P < .001

Table 4

Analysis of variance summary table for mean differences in job satisfaction for three clusters

| Source           | df  | ms   | F    | p    |
|------------------|-----|------|------|------|
| Between Clusters | 2   | 1.81 | 1.45 | .236 |
| Within Clusters  | 179 |      |      |      |

Although they were "average" in requesting information from superiors (variable 9), they were inclined to operate quickly and reach decision without consulting their subordinates. Moreover, their low mean scores on variables 14 and 15 would suggest that they are low on "human relations" behavior with regard to their subordinates. Finally, their low standard scores on variables 2, 3 and 4 suggest that, although they make terminal decisions, these managers tend to act impulsively (variable 4), with relatively little thought of alternatives (variable 2), and in an unorganized manner (variables 3 and 4). In sum, the 109 managers in Cluster A tend to be autocratic, impulsive, and poor in human relations skills.

Cluster B. In contrast to those in Cluster A, managers in Cluster B tended to be more organized (higher scores on variables 3, 4 and 7), and yet equally as decisive in their acts (variables 1 and 6 were essentially equal for the two groups). And, in contrast with the first group, managers in Cluster B were very high in human relations skills vis-a-vis their subordinates (variables 12, 14, and 15). Further, men in the second group were roughly "average" in the degree to which they gathered information from the people above them (variable 9) and below them (variables 8, 10, and 11). Overall, managers in Cluster B seem to be decisive and efficient, and yet capable of dealing effectively with other people in their organization.

Cluster C. The outstanding qualities demonstrated by managers in this group related to their consultative behaviors. They tended to postpone actions and decisions (variables 1, 6, and 7) in favor of gathering information and advice from their subordinates (variables 8, 10, and 11). Moreover, they were on the average, the most courteous group in dealing with the employees below them (variable 14). This apparent desire to gather facts and information before making a move is also reflected in their relatively high mean score on variable 2, "fluency of response". Like the managers in Cluster A, this group was relatively formal in dealing with subordinates, but at the same time appeared to be more courteous in these transactions than the former group.

In summary, it appears that the three clusters which emerged from the total sample constitute three entirely different types of managers. Cluster A managers appeared to be impulsive, autocratic and poor in human relations. Cluster B managers, on the other hand, seem to be just as productive as the first group, but are able to blend in a certain degree of social, inter-personal ability. Cluster C managers, in sharp contrast with the first two groups, are more consultative, thoughtful, and courteous.

#### Managerial Style and Age

The contingency table shown in Table 5 contains the observed and the expected frequencies of managers as they were categorized by age and style.

In Table 5, we note a disproportionate number of managers in the youngest age category (20-29 years) who were grouped in Cluster A (primarily impulsive, autocratic and low in human relations). Similarly, a disproportionate number of the managers in the 30-40 age group were in Cluster C (consultative), while a larger proportion of managers in Cluster B (courteous, efficient) were of the age 40-55 group, than would occur by chance. In other words, the age and style categories tended to be related as follows: Young managers tended to be more autocratic and inclined to make quick decisions without consulting their co-workers. Moreover, the young managers seemed to show few responses of a human relations nature.

On the other hand, the early middle-age group tended to be more consultative. They were more inclined to gather facts and information before reaching decisions. They were more courteous with their subordinates than the younger group, but were relatively formal with them at the same time.

Finally, we note that late middle-age managers (aged 40-55) appeared to be the most efficient of the sample. They acted as positively and decisively as the young autocratic group, but took more advantage of information-gathering activities

Table 5

Contingency Table for Chi Square Test of Age x Style Relationship

| Cluster     | Manager's Age |           |           |           |
|-------------|---------------|-----------|-----------|-----------|
|             | 20-29         | 30-40     | 40-55     | 55+       |
| A           | 18 (11.9)     | 33 (32.4) | 35 (43.1) | 17 (15.6) |
| B           | 4 (4.6)       | 5 (12.6)  | 25 (16.8) | 6 (6.1)   |
| C           | 0 (5.5)       | 22 (15.1) | 20 (20.1) | 6 (7.3)   |
| Sample Size | 22            | 60        | 80        | 29        |

Note: Expected frequencies for each cell in parentheses.

than did the younger men. And, at the same time, the older group demonstrated more interpersonal, human relations skills than did either of the two other groups.

It is tempting at this point to interpret these age x style relationships in a developmental manner. However, it is important to remember that these results are based on a cross-sectional analysis rather than on a longitudinal study. If the trends found here were substantiated by such a longitudinal investigation, we could make the following developmental conclusions with more confidence. However, on the basis of this study alone, certain implications and ideas should come to mind for students of organizational behavior and of management science.

First, it seems that younger men tend to be "one-man shows" - impulsive and lacking in interpersonal skills. While trying to become established in their management positions and develop the image of achievement and self-sufficiency, young managers may be forced into the types of behavior patterns characteristic of Cluster A executives. Is this necessarily desirable? Are these costs to the organization of such impulsivity, autocracy, and poor human relations practices? Would early management training develop the apparent results-orientation of this group while at the same time develop some degree of people-orientation? What are the relative effects on quality, morale, productivity, turnover and employee satisfaction of the different styles used by managers of different ages within the same organization? It is interesting that the pattern of learning and development which is suggested by comparing our groups is one in which a results-orientation (structuring behavior) precedes a people-orientation (consideration). Further research may investigate how common this developmental sequence is, relative to the reverse trend.

Second, these data lend some support to the notion of the relative independence of the structure and consideration dimensions. That managers can be situated at a "grid position" high in structure while at the same time being either high or low

in consideration was suggested by these data.

Finally, it would be of interest to study the relative effectiveness (in terms of objective organizational criteria) of managers of different ages who exhibited the general styles found here. For instance, are young managers who display the impulsive, autocratic style of behavior any less effective in their jobs than are the others who are more consultative? Results of the present study are only descriptive in nature; such further comparative investigations, in light of certain dependent variables, may yield some normative suggestions and prescriptive ideas. It is predicted, for example, that Cluster B managers (who were categorized predominately in the age 40-55 group) would be found to be more effective against a set of criteria than would managers of the same age group whose style was similar to that of Cluster A or Cluster B managers. It is apparent that more research is needed.

#### Managerial Style and Departmental Affiliation

The contingency table shown in Table 6 presents a summary of the  $X^2$  test for a possible relationship between managerial style (cluster membership) and the type of department in which the manager works.

Table 6 indicates skewed frequency distributions across cluster numbers in the following five department types: Operations, Sales, Finance, Research and Development, and General Administration. The results suggest that a disproportionate number of managers in Sales and Finance departments demonstrated the autocratic, Cluster A style of behavior in the inbasket exercise. Similarly, we note that a disproportionate number of managers in Operations, Research and Development, and General Administration displayed the Cluster B style of behavior. Finally, we find a slight trend for more of the "Other" group (Personnel, Purchasing, etc.) to display the consultative pattern of behavior found among Cluster C managers.

Table 6

Contingency Table for Chi-Square Test of the  
Relationship between Manager's Department and Style

| Cluster | Production | Operations | Sales     | Finance   | R & D   | Gen. Adm. | Other     |
|---------|------------|------------|-----------|-----------|---------|-----------|-----------|
| A       | 8 (7.1)    | 8 (12.6)   | 25 (19.7) | 23 (19.7) | 6 (7.1) | 16 (20.3) | 17 (16.4) |
| B       | 1 (2.8)    | 11 (4.9)   | 5 (7.7)   | 4 (7.7)   | 5 (2.8) | 11 (7.9)  | 3 (6.4)   |
| C       | 4 (3.0)    | 4 (5.5)    | 6 (8.6)   | 9 (8.6)   | 2 (3.1) | 10 (8.9)  | 10 (7.1)  |
| N=      | 13         | 23         | 36        | 36        | 13      | 37        | 30        |

Note: Expected frequencies for each cell in parentheses.

Some of these relationships appeal to intuition, while the understanding and explanation of others is more difficult.

First, the predominance of Cluster B and Cluster C managers who fell into the General Administration category tends to fit the stereotype of the older, more refined executive who is often promoted from line positions to higher, more general positions in the company's top administration ranks.

The quick, autocratic response pattern demonstrated by a large proportion of the managers in sales departments suggests, as we might expect, that decisions regarding sales and business must often be made quickly, and with minimal consultation by a single decision-maker. Moreover, such decisions must be decisive and final (as in Cluster A's style) in order that the sales firm can be competitive. Therefore, managers in sales positions seemed to be prone to such a style in the inbasket exercise. The relatively high proportion of Cluster A managers in finance positions is not as easy to explain.

#### Style and Other Demographic Variables

Apart from the relationships between cluster membership and the variables of age and departmental affiliation, none of the other 11 demographic variables which were investigated showed any relationships to managerial style which could be called significant at the conventional 5% level of confidence.

Two variables, primary values orientation and educational level, showed moderate relationships with cluster membership which would occur fewer than 10% of the time by chance. As Keaveny (1970) found, there was no clear-cut nor significant direct relationship found between these two variables. In Keaveny's research, primary values orientation was found to moderate relationships between specific values and certain managerial styles, but no simple relationships were found. In the present study, there was a tendency for moralists to be grouped in Cluster C

(consultative); for affective managers to be found in Cluster A (autocratic, impulsive), and for pragmatists to be members of Cluster B (decisive and efficient), but these trends were not distinct.

Similarly, there was a moderate trend for managers with post-graduate education to fall in Cluster C while a slightly disproportionate number of the college-only managers were grouped in Cluster B.

One curious finding was the lack of a significant relationship between managerial style on the one hand, and length of the manager's time on his present job, his total time with the company, and his total time as a manager on the other. These three "experience" variables correlated with the managerial age variable with coefficients of .65, .72, and .71, respectively. It seems strange that managers of different ages have different style patterns, but that length of experience bears no close relationship with the style variable. In other words, the present data suggest that it is the manager's age, not his experience, which seems to be related to the type of style he uses in his job. It is possible that because of the categorization scheme used in the present study to subgroup managers according to the experience variables, the expected relationships between experience and style were not found.

The usefulness of the broad categories "line" and "staff", when used in regard to managerial behavior, seems to be questioned by the apparent lack of differential styles among managers of these two broad categories. Rather, more specificity, as in the departmental categorization scheme used here, seems to be necessary if we are to compare and contrast the behavior patterns of managers coming from different branches of an organization. The parsimonious line/staff distinction used in management textbooks may no longer bear the specificity in meaning which it originally held.

### Conclusions

The results of the present study suggest that at least some personal or individual managerial variables may be associated with different styles of managerial behavior. However, in each of these relationships we must ask in which direction any causation may be occurring. For instance, it is obvious that age characteristics would be somewhat responsible for style differences, rather than the reverse. On the other hand, the relationship between style and type of department could be in either direction. That is, it is as reasonable to state that a manager's style will help to determine what department he will work in, as it is to suggest that different departmental demands will cause different style patterns. Finally, in the case of the moderate relationship between primary values orientation and style, it could be that variance on each of these two variables can be attributed to the influence of some third factor (such as age) or to a constellation of other variables.

The present research may have limited predictive value because of its cross-sectional nature, and due to the specificity of the behavior patterns found here. For the sake of convergent validity, further research, using a longitudinal approach and other measures of style seem needed to cross-validate the results of the present study. In this way, we could reliably predict a manager's style, given any set of demographic characteristics, or vice-versa.

## References

- Bowers, D. G. & Seashore, S. E. Predicting organizational effectiveness with a four-factor theory of leadership. Administrative Science Quarterly, 1966, 11, 238-263.
- Bray, D. W. & Grant, D. L. The assessment center in the measurement of potential for business management. Psychological Monographs, 1966, 80, (17, Whole No. 625).
- Campbell, J. P., Dunnette, M. D., Lawler, E. E., & Weick, K. Managerial Behavior, Performance, and Effectiveness. New York: McGraw-Hill, 1970.
- Cronbach, L. J. & Gleser, C. G. Assessing similarity between profiles. Psychological Bulletin, 1953, 50, 456-473.
- Dunnette, M. D. A note on the criterion. Journal of Applied Psychology, 1963, 47, 251-254.
- England, G. W. Personal value systems of American managers. Academy of Management Journal, 1967, 10, 53-68.
- England, G. W. Personal value systems of Korean managers. Journal of Asiatic Studies, 1968, Vol. 2.
- England, G. W. & Keaveny, T. J. The relationship of managerial values and administrative behavior. Journal of Manpower and Applied Psychology, 1970, 3, 63-75.
- Fiedler, F. E. A Theory of Leadership Effectiveness. New York: McGraw-Hill, 1967.
- Fleishman, E. A. The description of supervisory behavior. Journal of Applied Psychology, 1953, 37, 1-6.
- Fleishman, E. A. & Peters, D. A. Interpersonal values, leadership attitudes, and managerial success. Personnel Psychology, 1962, 15, 127-143.

- Chiaelli, E. E. Dimensional problems of criteria. Journal of Applied Psychology, 1956, 40, 1-4.
- General Electric Company, Behavioral Research Survey. The Inbasket Test as a Measure of Managerial Aptitude. New York: Author, 1961.
- Guion, R. M. Criterion measurement and personnel judgements. Personnel Psychology, 1961, 14, 141-149.
- Halpin, A. W. & Winer, J. A factorial study of the leader behavior description questionnaire. In R. M. Stodgill and A. E. Coons (Eds.), Leader Behavior, Its Description and Measurement. Research Monograph No. 88, Bureau of Business Research, Ohio State University, 1957.
- Hicks, J. A. & Stone, J. B. The identification of traits related to managerial success. Journal of Applied Psychology, 1962, 46, 428-432.
- Hoppock, R. Job Satisfaction. New York: Harper & Row, 1935.
- Kaaveny, T. J. The impact of managerial values on managerial behavior. Unpublished doctoral dissertation, University of Minnesota, 1970.
- Korman, A. K. "Consideration", "initiating structure", and organizational criteria - a review. Personnel Psychology, 1966, 19, 349-361.
- Lowin, A., Hrapchak, W. J., & Kavanaugh, M. J. Consideration and Initiating structure: An experimental investigation of leadership traits. Administrative Science Quarterly, 1969, 14, 238-253.
- Mahoney, T. A., Jerdee, T. H., & Nash, A. N. Predicting managerial effectiveness. Personnel Psychology, 1960, 13, 147-163.
- Personal Values Questionnaire. Minneapolis: University of Minnesota, Industrial Relations Center, 1965.
- Reddin, W. J. Managerial Effectiveness. New York: McGraw-Hill, 1970.
- Roethlisberger, P. J. & Dickson, W. J. Management and the Worker. Cambridge, Mass.: Harvard University Press, 1939.

Rossel, R. D. Instrumental and expressive leadership in complex organization.

Administrative Science Quarterly, 1970, 15, 306-316.

Ward, J. H. & Hook, M. E. An application of an hierarchical grouping procedure to

a problem of growing profiles. Educational and Psychological Measurement,

1963, 23, 69-82.

White, R. & Lippett, R. Leader behavior and member reaction in three "social climates". In D. Cartwright & A. Zander (Eds.), Group Dynamics, New York:

Harper & Row, 1968.

DISTRIBUTION LIST

- 4 Dr. Marshall J. Farr, Director  
Personnel & Training Research Programs  
Office of Naval Research  
Arlington, VA 22217
- 1 Director  
ONR Branch Office  
495 Summer Street  
Boston, MA 02210  
ATTN: C. M. Harsh
- 1 Director  
ONR Branch Office  
1030 East Green Street  
Pasadena, CA 91101  
ATTN: E. E. Gloye
- 1 Director  
ONR Branch Office  
536 South Clark Street  
Chicago, IL 60605  
ATTN: M. A. Bertin
- 6 Director  
Naval Research Laboratory  
Code 2627  
Washington, DC 20390
- 12 Defense Documentation Center  
Cameron Station, Building 5  
5010 Duke Street  
Alexandria, VA 22314
- 1 Chairman  
Behavioral Science Department  
Naval Command and Management Division  
U.S. Naval Academy  
Luce Hall—  
Annapolis, MN 21402
- 1 Chief of Naval Technical Training  
Naval Air Station Memphis (75)  
Millington, TN 38054  
ATTN: Dr. G. D. Mayo
- 1 Chief of Naval Training  
Naval Air Station  
Pensacola, FL 32508  
ATTN: CAPT Allen E. McMichael
- 1 LCDR Charles J. Theisen, Jr., MSC, USN  
4024  
Naval Air Development Center  
Warminster, PA 18974
- 1 Commander  
Naval Air Reserve  
Naval Air Station  
Glenview, IL 60026
- 1 Commander  
Naval Air Systems Command  
Department of the Navy  
AIR-413C  
Washington, DC 20360
- 1 Mr. Lee Miller (AIR 413E)  
Naval Air Systems Command  
5600 Columbia Pike  
Falls Church, VA 22042
- 1 Dr. Harold Booher  
NAVAIR 415C  
Naval Air Systems Command  
5600 Columbia Pike  
Falls Church, VA 22042
- 1 CAPT John F. Riley, USN  
Commanding Officer  
U.S. Naval Amphibious School  
Coronado, CA 92155
- 1 Special Assistant for Manpower  
OASN (M&RA)  
The Pentagon, Room 4E794  
Washington, DC 20350
- 1 Dr. Richard J. Niehaus  
Office of Civilian Manpower Management  
Code 06A  
Department of the Navy  
Washington, DC 20390
- 1 CDR Richard L. Martin, USN  
COMFAIRMIRAMAR F-14  
NAS Miramar, CA 92145

1 Research Director, Code 06  
Research and Evaluation Department  
U.S. Naval Examining Center  
Great Lakes, IL 60088  
ATTN: C. S. Winiewicz

1 Program Coordinator  
Bureau of Medicine & Surgery (Code 71G)  
Department of the Navy  
Washington, DC 20372

1 Commanding Officer  
Naval Medical Neuropsychiatric  
Research Unit  
San Diego, CA 92152

1 Technical Reference Library  
Naval Medical Research Institute  
National Naval Medical Center  
Bethesda, MD 20014

1 Chief  
Bureau of Medicine and Surgery  
Research Division (Code 713)  
Department of the Navy  
Washington, DC 20372

1 Dr. John J. Collins  
Chief of Naval Operations (OP-987F)  
Department of the Navy  
Washington, DC 20350

1 Technical Library (Pers-11B)  
Bureau of Naval Personnel  
Department of the Navy  
Washington, DC 20360

1 Head, Personnel Measurement Staff  
Capital Area Personnel Office  
Ballston Tower #2, Room 1204  
801 N. Randolph Street  
Arlington, VA 22203

1 Technical Director  
Naval Personnel Research and  
Development Center  
San Diego, CA 92152

1 Dr. Norman Abrahams  
Naval Personnel Research and  
Development Center  
San Diego, CA 92152

1 Dr. Bernard Rinland  
Naval Personnel Research and  
Development Center  
San Diego, CA 92152

1 Commanding Officer  
Naval Personnel Research and  
Development Center  
San Diego, CA 92152

1 Superintendent  
Naval Postgraduate School  
Monterey, CA 92940  
ATTN: Library (Code 2124)

1 Mr. George N. Graine  
Naval Ship Systems Command  
(SHIPS 03H)  
Department of the Navy  
Washington, DC 20360

1 Technical Library  
Naval Ship Systems Command  
National Center, Building 3  
Room 3S08  
Washington, DC 20360

1 Chief of Naval Training Support  
Code N-21  
Building 45  
Naval Air Station  
Pensacola, FL 32508

1 Dr. William L. Maloy  
Principal, Civilian Advisor  
for Education and Training  
Naval Training Command, Code 01A  
Pensacola, FL 32508

1 CDR Fred Richardson  
Navy Recruiting Command  
BCT #3, Room 215  
Washington, DC 20370

1 Mr. Arnold Rubinstein  
Naval Material Command (NMAT-03424)  
Room 820, Crystal Plaza #6  
Washington, DC 20360

Army

- 1 Commandant  
U.S. Army Institute of Administration  
ATTN: EA  
Fort Benjamin Harrison, IN 46216
- 1 Armed Forces Staff College  
Norfolk, VA 23511  
ATTN: Library
- 1 Director of Research  
U.S. Army Armor Human Research Unit  
ATTN: Library  
Building 2422 Morade Street  
Fort Knox, KY 40121
- 1 Commanding Officer  
ATTN: LTC Montgomery  
USACDC - PASA  
Ft. Benjamin Harrison, IN 46249
- 1 Commandant  
United States Army Infantry School  
ATTN: ATSIN-H  
Fort Benning, GA 31905
- 1 U.S. Army Research Institute  
Commonwealth Building, Room 239  
1300 Wilson Boulevard  
Arlington, VA 22209  
ATTN: Dr. R. Dusek
- 1 Mr. Edmund F. Fuchs  
U.S. Army Research Institute  
1300 Wilson Boulevard  
Arlington, VA 22209
- 1 Commander  
U.S. Theater Army Support Command,  
Europe  
ATTN: Asst. DCSPER (Education)  
APO New York 09058
- 1 Dr. Stanley L. Cohen  
Work Unit Area Leader  
Organizational Development Work Unit  
Army Research Institute for Behavioral  
and Social Science  
1300 Wilson Boulevard  
Arlington, VA 22209

Air Force

- 1 Headquarters, U.S. Air Force  
Chief, Personnel Research and Analysis  
Division (AF/DPSY)  
Washington, DC 20330
- 1 Research and Analysis Division  
AF/DPXYR Room 4C200  
Washington, DC 20330
- 1 AFHRL/MD  
701 Prince Street  
Room 200  
Alexandria, VA 22314
- 1 Personnel Research Division  
AFHRL  
Lackland Air Force Base  
Texas 78236
- 1 AFOSR (HL)  
1400 Wilson Boulevard  
Arlington, VA 22209

Marine Corps

- 1 COL George Caridakis, Director  
Office of Manpower Utilization  
Headquarters, Marine Corps (A01H)  
HCB  
Quantico, VA 22134
- 1 Dr. A. L. Slafkosky  
Scientific Advisor (Code Ax)  
Commandant of the Marine Corps  
Washington, DC 20380
- 1 Mr. E. A. Dover  
Manpower Measurement Unit (Code A01M-2)  
Arlington Annex, Room 2413  
Arlington, VA 20370

### Coast Guard

1 Mr. Joseph J. Cowan, Chief  
Psychological Research Branch (P-1)  
U.S. Coast Guard Headquarters  
400 Seventh Street, SW  
Washington, DC 20590

### Other DOD

1 Lt. Col. Austin W. Kibler, Director  
Human Resources Research Office  
Advanced Research Projects Agency  
1400 Wilson Boulevard  
Arlington, VA 22209

1 Dr. Ralph R. Canter  
Director for Manpower Research  
Office of Secretary of Defense  
The Pentagon, Room 3C980  
Washington, DC 20301

### Other Government

1 Dr. Lorraine D. Eyde  
Personnel Research & Development Center  
U.S. Civil Service Commission, Room 3458  
1900 E. Street, N.W.  
Washington, DC 20415

1 Dr. Vern Urry  
Personnel Research & Development Center  
U.S. Civil Service Commission  
Washington, DC 20415

### Miscellaneous

1 Dr. Scarvia Anderson  
Executive Director for Special  
Development  
Educational Testing Service  
Princeton, NJ 08540

1 Dr. Richard C. Atkinson  
Stanford University  
Department of Psychology  
Stanford, CA 94305

1 Dr. Bernard M. Bass  
University of Rochester  
Management Research Center  
Rochester, NY 14627

1 Mr. H. Dean Brown  
Stanford Research Institute  
333 Ravenswood Avenue  
Menlo Park, CA 94025

1 Mr. Michael W. Brown  
Operations Research, Inc.  
1400 Spring Street  
Silver Spring, MD 20910

1 Century Research Corporation  
4113 Lee Highway  
Arlington, VA 22207

1 Dr. Kenneth E. Clark  
University of Rochester  
College of Arts and Sciences  
River Campus Station  
Rochester, NY 14627

1 Dr. Rene V. Dawis  
University of Minnesota  
Department of Psychology  
Minneapolis, MN 55455

1 Dr. Norman R. Dixon  
Associate Professor of Higher  
Education  
University of Pittsburgh  
617 Cathedral of Learning  
Pittsburgh, PA 15213

1 Dr. Robert Dubin  
University of California  
Graduate School of Administration  
Irvine, CA 92664

1 Dr. Marvin D. Dunnette  
University of Minnesota  
Department of Psychology  
N492 Elliott Hall  
Minneapolis, MN 55455

- 2 ERIC  
Processing and Reference Facility  
4833 Rugby Avenue  
Bethesda, MD 20014
- 1 Dr. Victor Fields  
Department of Psychology  
Montgomery College  
Rockville, MD 20850
- 1 Dr. Edwin A. Fleishman  
American Institutes for Research  
8555 Sixteenth Street  
Silver Spring, MD 20910
- 1 Mr. Paul P. Foley  
Naval Personnel R&D Laboratory  
Washington Navy Yard  
Washington, DC 20374
- 1 Dr. Albert S. Glickman  
American Institutes for Research  
8555 Sixteenth Street  
Silver Spring, MD 20910
- 1 Dr. Duncan N. Hansen  
Florida State University  
Center for Computer-Assisted Instruction  
Tallahassee, FL 32306
- 1 Dr. Richard S. Hatch  
Decision Systems Associates, Inc.  
11428 Rockville Pike  
Rockville, MD 20852
- 1 Dr. M. D. Havron  
Human Sciences Research, Inc.  
Westgate Industrial Park  
7710 Old Springhouse Road  
McLean, VA 22101
- 1 Human Resources Research Organization  
Division #3  
P.O. Box 5787  
Presidio of Monterey, CA 93940
- 1 Human Resources Research Organization  
Division #4, Infantry  
P.O. Box 2086  
Fort Benning, GA 31905
- 1 Human Resources Research Organization  
Division #5, Air Defense  
P.O. Box 6057  
Fort Bliss, TX 79916
- 1 Human Resources Research Organization  
Division #6, Library  
P.O. Box 428  
Fort Rucker, AL 36360
- 1 Dr. Lawrence B. Johnson  
Lawrence Johnson & Associates, Inc.  
200 S Street, N.W., Suite 502  
Washington, DC 20009
- 1 Dr. Norman J. Johnson  
Carnegie-Mellon University  
School of Urban and Public Affairs  
Pittsburgh, PA 15213
- 1 Dr. E. J. McCormick  
Purdue University  
Dept. of Psychological Sciences  
Lafayette, IN 47907
- 1 Dr. Robert R. Mackie  
Human Factors Research, Inc.  
6780 Cortona Drive  
Santa Barbara Research Park  
Goleta, CA 93017
- 1 Mr. Edmond Marks  
109 Grange Building  
Pennsylvania State University  
University Park, PA 16802
- 1 Dr. Leo Munday  
Vice President  
American College Testing Program  
P.O. Box 168  
Iowa City, IA 52240
- 1 Mr. Luigi Petruccio  
2431 North Edgewood Street  
Arlington, VA 22207
- 1 Dr. Robert D. Pritchard  
Assistant Professor of Psychology  
Purdue University  
Lafayette, IN 47907
- 1 Dr. Joseph W. Rigney  
Behavioral Technology Laboratories  
University of Southern California  
3717 South Grand  
Los Angeles, CA 90007
- 1 Dr. Leonard L. Rosenbaum, Chairman  
Department of Psychology  
Montgomery College  
Rockville, MD 20850

- 1 Dr. Benjamin Schneider  
University of Maryland  
Department of Psychology  
College Park, MD 20742
  
- 1 Dr. Arthur I. Siegel  
Applied Psychological Services  
Science Center  
404 East Lancaster Avenue  
Wayne, PA 19087
  
- 1 Mr. Emanuel P. Somer, Head  
Naval Personnel Research and  
Development Center  
San Diego, CA 92152
  
- 1 Dr. David J. Weiss  
University of Minnesota  
Department of Psychology  
Minneapolis, MN 55455
  
- 1 Dr. Anita West  
Denver Research Institute  
University of Denver  
Denver, CO 80210
  
- 1 Dr. Charles A. Ullmann  
Director, Behavioral Sciences Studies  
Information Concepts Incorporated  
1701 No. Ft. Myer Drive  
Arlington, VA 22209