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**INTEREST PATTERNS OF MANAGEMENT
PERSONNEL AS A FUNCTION OF
ORGANIZATIONAL LEVEL**

by

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**A Thesis Submitted to the Faculty of the Graduate School of Loyola
University in Partial Fullfillment of the
Requirements for the Degree of
Master of Arts**

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I. INTRODUCTION

As the management hierarchy is descended from top management through middle management to bottom management, we find a vast difference in the types of activities with which each level is concerned. Top management is held responsible for the overall functioning of the company. Their activities are mainly the setting of general policies and goals and seeing that the personnel under them reach the goals. Middle management is concerned with "the execution and interpretation of policies through the organization and ... the successful operation of assigned divisions or departments." (A.M.A. 1964b) Bottom management deals with the day to day operations and problems within the framework set down by top and middle management. Thus, as we go down the management scale, we see a narrowing of scope at each level. This narrowing of scope should be accompanied by a concentration of effort in one particular field of endeavor, namely the field for which the person is responsible. It follows, therefore, that if a person's effort is directed toward a particular field his interests should be very strong in that area. Conversely, if the person's efforts are not strongly channeled, his interests should be more general and more homogeneous.

As the management scale is ascended, we move from a situation in bottom management where the management person merely directs his subordinates to do tasks to a situation in top management where the person must persuade his peers to adopt or reject certain policies or goals. Therefore as the management hierarchy is ascended, we should find a corresponding rise in interest for activities involving persuasion.

The duties of top management involve more abstract concepts than do the duties of bottom management. These abstract concepts necessarily involve more reading and writing from the person. We would expect, therefore, that as we go down the management scale, the personnel should show a lesser interest in literary activities.

From an examination of the duties of top, middle and bottom management, we have drawn the conclusions that as the management hierarchy is ascended (1) interests should be more general and homogeneous, (2) persuasive interest should rise and (3) literary interest should rise.

Bedrosian (1964) investigated the interests of top management and middle management personnel using the Strong Vocational Interest Blank. Breaking down each of the levels into three groups, Business Contact, Business Administration and Technology, Bedrosian compared the two management levels of each group for homogeneity or broadness of interests. His findings indicated that in the Business Contact group the interests of top management were significantly less patterned or heterogeneous while there was no significant difference between the two levels in the Business Administration and Technology groups. If the scores for the three groups are combined and only management level is compared, we find that the difference between levels is significant at the .055 level of confidence. It was concluded that a slightly different procedure might yield more significant results. The Kuder Preference Record - Vocational (Form C) was chosen since it measures a different aspect and set of interests than the S.V.I.B. A third management level, bottom management, was added to determine if differences were a direct function

of management level. Also the levels were not broken down into sub-groups but each level was compared in its entirety.

Wald (1953) conducted a study in which he investigated, in depth, thirty top executives. Part of the study included the administration of the Kuder Preference Record - Vocational. Wald found that these men scored highest on the Literary scale and the Persuasive scale (79th and 82nd percentile respectively). It was decided to investigate these two interests at various management levels to determine if there is a relationship between management level and these interests.

II. METHOD

Subjects. The subjects were male management personnel employed by a large midwestern manufacturer. All subjects were considered "exempt" under the Federal Wage and Hour Act. Because of the difficulty and expense involved, personnel not stationed at the main office were excluded from the study. This involved ninety-six sales personnel stationed throughout the United States. Female management personnel were excluded from the study also. There were only eight women who were considered management personnel and all eight were in bottom management. Because of this concentration and the different interest scale for women, it was considered best to exclude them.

Procedure. Each subject was approached personally by the experimenter and asked to participate in a research project. He was told that the purpose of the project was for a masters thesis. He was not told the title of the thesis or the hypotheses, only that the project involved the interests of management personnel. Each person was told that participation was entirely voluntary and that individual results would not be made available to anyone but the experimenter. Each was told that all participants would be shown their own results and that the purpose of the research would be explained when testing was completed. If the subject agreed to participate, he was given the Kuder Preference Record - Vocational (Form CH). The instructions were gone over with the subject and he was instructed to complete the test on his own. In all 76 persons were asked to participate and 72 or 94.7% agreed. The completed tests were returned to the experimenter.

and profiles were drawn up for each participant.

Analysis. Each subject was classified as either top, management, middle management or bottom management using the company's salary administration system as the basic guide. Also the positions were compared with the position descriptions in the salary surveys of Top Management, Middle Management and Supervisory and Administrative Personnel which are conducted by the Executive Compensation Service of the American Management Association (A.M.A. 1964a, 1964b and 1964c) as a further check on organizational level.

A "t" test of significance was used to determine if the Literary or Persuasive scale of the Kuder was significantly related to organizational level.

To determine if there was a significant relationship between organizational level and homogeneity of interests, the method employed by Bedrosian (1964) was used. This method was originally described by Cronbach and Gleser (1953). The scatter score (d) was computed for each subject by the following method:

1. The mean percentile of the ten interest scales for each subject was computed
2. The deviation of each of the ten interest scales from the mean was computed. The deviations were squared and summed.
3. The square root of the sum of the squared deviations was computed (d).

A "t" test comparing the scatter scores of each organizational level with each of the other levels was used to determine if there

was a significant relationship.

A "t" test was also used to determine if there was a relationship between organizational level and any of the Kuder scales. Both raw scores and percentile scores were tested for significance.

III. RESULTS AND DISCUSSION

The scatter scores of each management level were compared to each of the other levels by means of a "t" test and using the following formulae:

$$t = \frac{M_1 - M_2}{\sqrt{\frac{S^2}{N_1} + \frac{S^2}{N_2}}}$$

$$S^2 = \frac{\sum (X - M_1)^2 + \sum (X - M_2)^2}{N_1 + N_2 - 2}$$

The means and standard deviations of these scatter scores are shown in Table I.

TABLE I

Mean and Standard Deviation of Scatter Scores on the Kuder Preference Record - Vocational by Management Level

Management Level	N	Mean	S.D.
Top Management	6	101.73	6.55
Middle Management	29	87.45	14.32
Bottom Management	37	91.79	9.33

The "t" tests of significance failed to support the hypothesis of less scatter of interests at each higher level of management. The results of these "t" tests appear in Table II.

TABLE II
"t" Tests of Scatter Scores
for Each Management Level

Management Levels Tested	df	t
Top vs Middle	33	2.32
Top vs Bottom	41	2.45
Middle vs Bottom	64	1.46

The results of this study indicate that Top Management personnel have more scatter of interests than either Middle or Bottom Management

personnel. Although not in the direction predicted, the scatter scores for top vs middle management and top vs bottom management are significantly different at the .02 level of confidence using a two tailed test.

These findings differ from the findings of Bedrosian (1964), however there are several differences between the present study and that of Bedrosian.

In the present study the personnel were asked to participate on a strictly voluntary basis. They were told that the results of their test would not be made available to anyone. The personnel were all known personally by E and knew that E was attending school. They had no reason to doubt that the project was not work related. In Bedrosian's study, the test was given by an outside consulting firm as part of a personnel research program which was paid for by the company. This difference in the testing climate could have had some effect upon the results.

The personnel tested in the two studies also differed. Bedrosian used management personnel drawn from plants scattered throughout the United States. The present study involved personnel of one plant situated in a large metropolitan area.

A third explanation for the difference in results, and probably the most significant, is the test that was used. Bedrosian used the Strong Vocational Interest Blank. The results showed each persons's interest in each of thirty occupations. Bedrosian grouped these occupations into seven interest families. The mean interest for the occupations in each interest family was taken to be the person's interest

level in that family. This breakdown of interests was originally formulated by Darley and Hagenah (1955). The interest families are:

1. Biological Sciences
2. Physical Sciences
3. Technical
4. Social Service
5. Business Detail
6. Business Contact
7. Verbal-linguistic

In the present study, the Kuder Preference Record - Vocational was used and measured interest in the following ten interest areas:

1. Outdoor
2. Mechanical
3. Computational
4. Scientific
5. Persuasive
6. Artistic
7. Literary
8. Musical
9. Social Service
10. Clerical

This difference in the types of interests measured probably accounts for the difference between the results of the present study and those of the Bedrosian study.

The mean and standard deviation of each interest scale was computed for each management level using both raw scores and percentile scores. These results are shown in Tables III and IV.

A "t" test was calculated comparing each management level with each other level on each interest scale. This was done for both raw scores and percentile scores. Tables V and VI show the results.

TABLE III

MEAN AND STANDARD DEVIATION OF RAW SCORES ON EACH
KUDER INTEREST SCALE BY MANAGEMENT LEVEL

	Management Level						
	Top Management		Middle Management		Bottom Management		
	Mean	S.D.	Mean	S.D.	Mean	S.D.	
	Outdoor	39.2	7.8	38.7	15.1	38.2	12.9
	Mechanical	24.2	12.3	44.7	12.4	42.6	13.9
K	Computational	29.2	11.3	31.3	8.7	34.5	8.7
U	Scientific	39.8	8.8	40.7	9.9	43.6	8.1
D	Persuasive	56.7	9.4	44.9	16.3	40.8	13.7
E	Artistic	19.7	8.6	21.5	5.7	21.4	9.0
R	Literary	24.5	4.4	20.4	7.5	20.4	7.9
S	Musical	16.3	7.5	12.4	5.8	11.3	6.6
C	Social Service	42.3	15.8	41.5	11.7	40.3	13.0
A	Clerical	41.5	20.6	43.2	13.5	46.2	11.4
L							
E							

TABLE IV
MEAN AND STANDARD DEVIATION OF PERCENTILE SCORES ON
EACH KUDER INTEREST SCALE BY MANAGEMENT LEVEL

	Management Level					
	Top Management		Middle Management		Bottom Management	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Outdoor	40.3	17.5	41.0	28.2	39.1	25.3
Mechanical	15.0	16.7	53.5	26.9	48.1	31.2
Computational	47.9	35.4	59.3	37.6	68.8	26.7
Scientific	47.1	24.4	52.4	25.4	59.9	23.3
Persuasive	80.7	12.3	56.3	31.0	49.1	29.3
Artistic	37.8	30.0	47.0	22.4	45.1	28.5
Literary	69.6	16.4	52.6	27.3	53.2	29.7
Musical	63.3	29.9	51.5	27.0	45.0	29.7
Social Service	52.9	35.4	49.0	26.2	46.3	29.7
Clerical	42.5	39.5	42.0	32.0	51.9	27.8

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TABLE V

"t" TESTS ON RAW SCORES OF EACH KUDER INTEREST SCALE TESTING
EACH MANAGEMENT LEVEL WITH EVERY OTHER LEVEL

	Management Levels Compared		
	Top Management vs Middle Management	Top Management vs Bottom Management	Middle Management vs Bottom Management
Outdoor	.08	.18	.14
Mechanical	-3.58*	-2.97*	.63
K U D E R S C A L E E	Computational	-1.29	-1.46
Scientific	-.20	-1.03	-1.03
Persuasive	1.66	2.69**	1.09
Artistic	-.28	-.42	.05
Literary	1.26	1.22	0.0
Musical	1.38	1.79	.70
Social Service	.14	.33	.38
Clerical	-.25	-.80	-.96

* Significant at the .01 level of confidence (two tailed test)

** Significant at the .01 level of confidence (one tailed test)

TABLE VI

"t" TESTS ON PERCENTILE SCORES OF EACH KUDER INTEREST SCALE
TESTING EACH MANAGEMENT LEVEL WITH EVERY OTHER LEVEL

Management Levels Compared

	Top Management vs Middle Management	Top Management vs Bottom Management	Middle Management vs Bottom Management
Outdoor	.63	.11	.30
Mechanical	-3.28*	-2.49**	.73
K Computational	-.68	-1.65	-1.15
U Scientific	-.46	-1.21	-1.22
D Persuasive	1.84***	2.55****	.95
E Artistic	-.84	-.57	.29
R Literary	1.43	1.29	-.09
S Musical	-.93	1.36	.90
C Social Service	.30	.48	.38
A Clerical	.03	-.70	-1.31

* Significant at the .01 level of confidence (two tailed test)

** Significant at the .02 level of confidence (two tailed test)

*** Significant at the .05 level of confidence (one tailed test)

**** Significant at the .005 level of confidence (one tailed test)

From Tables V and VI we see that the original hypothesis of a relationship between management level and persuasive interest does not hold true entirely. Using raw scores (Table V) we find a significant difference only when comparing top management and bottom management. If percentile scores are used (Table VI), we find a significant difference between the persuasive interests of top management and those of middle and bottom management. There is no significant difference between middle and bottom management. It appears, therefore, that top management personnel definitely have a significantly higher interest in persuasive activities than bottom management personnel and probably have a higher interest than middle management personnel. Persuasive interest level appears only to distinguish top management personnel from other management personnel and is not a direct function of management level.

The hypothesis of a positive relationship between management level and literary interest was not confirmed. There are no significant differences between any of the management levels on this scale.

The remaining eight scales of the Kuder Preference Record were tested to determine if any of the scales showed a significant relationship to management level. Only one other interest scale showed any significant difference. On the mechanical interest scale we find that top management scores significantly lower than either middle management or bottom management. This holds true for both raw scores and for percentile scores. Like the persuasive scale, the mechanical scale does not show a relationship between interest level and organizational level but only differentiates top management personnel from other

lower level management personnel.

Overall, there appears to be very little relationship between organizational level and interest patterns.

IV. SUMMARY AND CONCLUSIONS

The Kuder Preference Record - Vocational (Form CH) was administered to 72 management personnel of a large midwestern manufacturer. The subjects were classified as top, middle or bottom management. A "t" test of significance was used to show that the interests of the top management group were significantly less homogeneous than the interests of both middle and bottom management. These findings are contrary to those of Bedrosian (1964) and to the original hypothesis. Several explanations are offered. Further "t" test analysis showed that top management personnel have a significantly higher persuasive interest than middle or bottom management but failed to uphold the hypothesis that middle management personnel have a higher persuasive interest level than bottom management personnel. The hypothesis that literary interest is a function of organizational level was not confirmed. The remaining eight scales of the Kuder were tested by means of a "t" test to determine if any of the interests had a relationship to organizational level. Top management personnel scored significantly lower on the mechanical interest scale than either middle or bottom management personnel. There was no significant difference between middle and bottom management. None of the other interest scales showed any significant relationship to organizational level.

Overall, there appears to be little relationship between interest patterns and organizational level. The only differences come between top management and the other two levels.

Further research in this area is needed before any positive conclusions can be reached. Future approaches should utilize both the Strong Vocational Interest Blank and the Kuder Preference Record to determine if the difference between the results of the present study and those of Bedrosian is due to the test. Also, a larger sample drawn from more than one plant and locality would be advisable.

If a difference between the interests of various management levels is found in subsequent research, then it should be determined if this difference is one that comes about through time or if it is present in future top executives from the beginning. If these interest patterns come about through change over time then interest testing could be used to help determine if management personnel are progressing in their professional growth at a satisfactory rate. If these patterns are present from the beginning, then interest testing could be used to help identify future top management personnel.

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Approval Sheet

The thesis submitted by Arthur Charles Omberg, Jr. has been read and approved by three members of the Department of Psychology.

The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated, and that the thesis is now given final approval with reference to content, form, and mechanical accuracy.

The thesis is therefore accepted in partial fulfillment of the requirements for the Degree of Master of Arts.

1/10/66

Date

Edmund P. Mare
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