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THE RE-EVALUATION OF A CLERICAL APTITUDE TEST

by

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CHAPTER I

THE PROBLEM

Introduction

The development of aptitude tests, as a means of selecting applicants for employment, has accompanied the growth of business enterprise. The recognition of the fact that the placement of an applicant in a position for which he is poorly equipped usually results in an actual loss of money to the employer has stimulated the growth of interest in pre-employment testing.

A test is not considered valid--or capable of the performance claimed for it--until it has been administered to experienced workers and the results found to be closely related with the degree of success already achieved by these workers. This success may be measured by any of various standards, such as production, wages, bonus earnings, job level, or the judgment of the supervisors. When the relationship of test scores and employee-success has been established, then the test may be of value in predicting the probable success of the applicant.

The abilities essential to success in a clerical occupation have been classified by Bingham¹ as:

- (1) " . . . perceptual: ability to observe words and numbers, to see instantly and correctly what is on the paper . . .

¹ Walter V. D. Bingham, Aptitudes and Aptitude Testing, p. 142.

- (2) . . . intellectual: ability to grasp the meanings of the words and other symbols and to make correct decisions regarding the questions they raise . . .
- (3) . . . various mental skills peculiarly susceptible to improvement
- (4) motor ability

"Measurement of clerical aptitudes has received intensive study," according to Bingham,² who further reports that from these investigations has come the conclusion that the intelligence or mental alertness test furnishes a measurement of those qualities necessary in the able clerical worker.³ In support of this judgment, Burt writes:⁴

. . . It is sometimes difficult to draw the line between "clerical" tests and "intelligence" tests . . . If a distinction between the two kinds of items were attempted, it would probably be to the effect that intelligence tests embody more abstract items whereas clerical tests deal with more specific things like numbers and proper names.

Purpose of this Study

This study is devoted to the examination of a clerical aptitude test, L. O. M. A. Test No. 1--Form A. It is one that was designed by the Life Office Management Association for the testing of applicants for employment in the offices of member life insurance companies. Chapter III describes the work which led to its development. The test has been made available to member companies because it was found reliable in the prediction of the success of the experienced workers to whom it was first administered.

The purpose of this study is to re-evaluate the test, in terms of the relationship between the test score and the job level of the

2 Op. cit., p. 142.

3 Ibid., pp. 151-2.

4 H. E. Burt, Principles of Employment Psychology, p. 5.

employee. As nearly as was possible, the original experiment with L. O. M. A. Test No. 1 (the title of the test developed by the Life Office Management Association) has been repeated in an effort to discover how closely the results of this study correspond with those obtained by the L. O. M. A. Committee on Tests.

A related purpose is to determine the relationship between the test score of the employee and the rating he receives from his supervisor. The device for rating is a five-point scale already in use in the office of the life insurance company where the test was administered.

Justification

The basic problem has already been approached and undertaken on a larger scale by the designers of L. O. M. A. Test No. 1. It is repeated here in the nature of an experiment, to determine whether or not the original findings are substantiated in a similar and slightly smaller local investigation. L. O. M. A. Test No. 1 has never been administered by the personnel office of the life insurance company cooperating in this investigation; nor has any similar testing program been utilized. The supervisory rating scale concerned in this study was developed by the local organization, and ratings are regularly requested of the supervisors by the personnel office.

Definitions

There are four terms which are used throughout this report that should be defined here; they are clerical worker, aptitude test, job level, and promotability.

A clerical worker is, generally speaking, an office worker; his duties may range from those of the office boy to that of executive.

For purposes here, the definition of these duties as formulated by Marion A. Bills and reported by Bingham is presented:⁵

Clerical duties in a modern office . . . include the gathering, classification, and preservation of data of all sorts, and the analysis and use of these data in planning, executing, and determining the results of operation.

This explanation is amplified by Bingham in these words:⁶

There is a wide range in the difficulty, the complexity, and the responsibility of clerical positions, extending all the way from the clerk doing the simplest sorting to the clerk who has to make decisions, binding on his employer, involving thousands of dollars.

The aptitude test is described also by Bills, as chairman of the L. O. M. A. Committee on Tests, as follows:⁷

one which, before a person has definite training or experience along a given line, helps to determine whether or not that person has the abilities necessary to become successful in that line.

Another statement from Bingham⁸ supports this definition:

. . . aptitude tests do not directly measure future accomplishment. They make no such pretense. They measure present performance. Then, so far as behavior, past and present, is known to be symptomatic of future potentialities, the test data supply a means of estimating those potentialities. The estimate is necessarily in terms of probabilities only.

Job level denotes the classification of a worker's duties on the basis of the tasks involved, ranging from simplest clerical tasks to tasks requiring the making of decisions.

Promotability is that quality in the worker which allows him to advance from one job level to a higher job level. Knowledge of the

5 Bingham, op. cit., p. 144.

6 Marion A. Bills, "Report of Committee on Tests," Annual Proceedings of the Life Office Management Association, 1938. p. 49.

7 Bingham, op. cit., p. 144.

8 Ibid., p. 22.

degree of this quality in the applicant enables the employer to select workers best suited to the needs of the organization and to assist the applicant in finding work best suited to his abilities.

Limitations

The scope of this study is limited to the 65 employees of an insurance company who were selected for testing.

Since this study concerns a mental alertness test, the limitations of such a test might well be pointed out. In 1936 the Committee on Tests listed for the members of the Life Office Management Association these four limitations:⁹

1. mental alertness is the sum of many qualities and these qualities are possessed in varying degrees by different individuals. Evidently, in using any mental alertness test we must determine two things: first, the type of mental alertness the test measures and, second, the type of mental alertness needed in the job to be filled. The general abilities test offered by the committee (L. O. M. A. Test No. 1) is prepared to predict possession or lack of possession of those abstract mental qualities needed for promotion along clerical lines in a life insurance office.
2. . . . one type of mental alertness is not the only characteristic needed to make a good clerk . . . We cannot therefore always blame the mental alertness test when an employee is unsatisfactory.
3. . . . mental alertness tests today are still in their infancy If a person passes a properly constructed clerical general ability test with a satisfactory grade, the statistics show that the chances are better than average that he will be sufficiently mentally alert to make a good clerk . . .

On the positive side we can say that a person passing a properly constructed mental ability test has a much better

⁹ D. N. Warters, "Limitations of a Mental Alertness Test," Annual Proceedings of the Life Office Management Association, 1936, pp. 67-78.

chance of being mentally able than (has) one failing such a test.

4. . . . a test cannot give results unless it is used with a full knowledge of the purpose for which it is intended and of the technique with which it is to be given.

The following summary is of additional limitations of a mental alertness test suggested by Bills:¹⁰

1. Test scores may give accurate predictions for a group of persons but allow for considerable error in individual cases.
2. The measuring instrument may yield inaccurate scores.
3. The standardization group may not be representative.

¹⁰ Committee on Tests, The Application of Psychological Tests to the Selection, Placement, and Transfer of Clerical Employees, p. 22.

CHAPTER II

PROCEDURES OF THE STUDY

The subjects participating in this investigation were 65 employees of an insurance company, with from one to five years' service. The data consist of:

1. Supervisory ratings on these 65 employees.
2. Classification of the jobs of these workers into levels based on job descriptions.
3. Scores on L. O. M. A. Test No. 1--Form A, for 62 cases.

The rating scale, a copy of which appears on page 10, was developed by the insurance company for its exclusive use. Though it provides information admittedly of a subjective nature, it determines for the organization whether or not an employee is satisfactory in the job to which he has been assigned. Customarily, ratings are made semiannually; in this instance, they had not been prepared since the six-month period ending January, 1943. The request for the ratings used in this study came in the early days of the last month of the fiscal year (December, 1943). Since the gathering of this information is a normal function of the personnel office, it is believed that these ratings were not colored by knowledge of the experimental use to which they would be put. Consequently, they probably represent as fair an appraisal of the employees' performance on the job as supervisory ratings can provide.

A rating was obtained for each office employee, from stockroom clerk to supervisor. On the rating form appeared the information usually required and, in addition, the date of the employment of the individual rated. On the back of the sheet was a description of the employee's tasks, prepared by him and signed by the supervisor.

All the rating sheets were then examined to ascertain the length of employment of each worker, as a basis of selection of subjects for this study. The following tabulation presents the results:

<u>Length of Service</u> <u>(as of Jan. 2, 1944)</u>	<u>No.</u>
Less than 1 year	93
1 year, less than 2 years	38
2 years, less than 3 years	13
3 years, less than 4 years	7
4 years, less than 5 years	7
5 years, less than 6 years	0
6 years, less than 7 years	1
7 years, less than 8 years	2
8 years, less than 9 years	0
9 years, less than 10 years	3
10 years and over	76

This distribution shows the highest frequencies in the intervals representing the shorter periods of service. Only six cases fall in the year-range group (5-10 years) used in the L. O. M. A. original study, and only seven cases fall in the group (3 years) used in the L. O. M. A. follow-up study, which will be discussed in Chapter III. In order to obtain sufficient data in the present study, it was necessary to draw upon other service periods. Because of the initial-employment status of workers who had been employed only a fraction of a year, it seemed desirable, for the purposes of this investigation, to exclude the 93 cases representing less than one year of service. The distribution of the remaining cases suggested as an appropriate range for this study the 65 cases representing one to five years of service.

Attention should be directed to the date of this study and to its possible influence on the figures in the tabulation above and in all

other data which will be presented. The appearance of a large number of one- and two-year employees may be traceable to the entrance of the United States into World War II on December 8, 1941, and to the preceding years of preparation against this development. The demands of the Selective Service Act and, later, of the draft drained from private business numbers of workers; industries engaged in meeting government contracts have attracted both men and women; the inauguration of the women's branches of the Army and Navy may account for the loss of other workers. Whatever the cause, there has been experienced in the organization a great increase in the turnover of clerical personnel; the scarcity of applicants for employment has forced upon the personnel office the acceptance of employees who did not meet the usual standards of the firm.

For purposes of this study, the rating for each employee was reduced to a numerical value. Since the form provides a five-point scale, this adaptation was feasible. Above each column of the scale, on page 10, appears the value assigned to it. The numerical value of each rating, as reported in this study, is the total score on the eleven traits. In nine instances, no indication of the "supervisory ability" of the employee had been made; on these appeared the note, written by the supervisor, "has not had opportunity to demonstrate." To render these ratings usable in comparisons, the value of "3" ("Not Outstanding") was arbitrarily placed on the quality. In the array of the ratings (see Appendix) these scores are starred.

The job classification for each of these employees was ascertained through the use of the job descriptions and in conference with the personnel manager. These descriptions were compared with the "classification plan which was designed specifically (for the original study)

EMPLOYEE'S RATING CHART

Name _____ Date _____

Department _____ Position _____

	5	4	3	2	1
Date of Employment <u>APPEARANCE</u> Consider neatness of person and dress.	Appropriate	Neat	Fair	Passable	Poor
<u>TYPE</u>	Well bred and cultured	Well bred and business-like	Well bred but not business-like	Industrial or ultra-fashionable	Coarse
<u>CHARACTER</u>	Dependable and of highest influence	Dependable	Weak	Bad influence	
<u>INITIATIVE</u>	Exhibits initiative to marked degree	Shows much initiative	Shows some initiative	Rarely shows any	None
<u>COOPERATION</u> How well are business relations conducted with other employees?	Very cooperative	Good business relations	Difficult to handle	Hinders	
<u>SPEED</u>	Extremely rapid	Fast worker	Normal	Slower than average	Very slow
<u>ACCURACY</u>	Highest possible	Very accurate	Normal accuracy	Too many errors	Decidedly inaccurate
<u>DEPENDABILITY</u> How well can employe- be relied on to do work without supervision?	Completes job without supervision.	Needs only occas- ional supervision	Usually reliable	Always requires some supervision	Requires constant supervision
<u>KNOWLEDGE OF WORK</u>	Completely informed	Has mastered most details	Knows job fairly well	Improves slowly	
<u>SUPERVISORY ABILITY</u>	Very forceful leadership	Effective	Not outstanding	Inadequate	None
<u>INTEREST IN WORK</u>	Exhibits interest to marked degree	Shows much interest	Shows some interest	Rarely shows any	None

Describe duties in detail on reverse side.

(Signed) _____
Department Head.

2074 ML

Supervisory Rating Scale

and which the Committee does not recommend for more general use."¹
The "Job Classification Plan" is reproduced on page 23. Since the number of cases in the present study is limited to 65, another practice of the Committee was adopted, that of combining the two subdivisions under Job II and of combining Jobs III, IV, and V into the designation "Job III."

On the date the tests were to be administered, these 65 employees were requested to meet the personnel manager; they had no information about the reason for the meeting. When they had assembled, he explained the purpose of his request by asking for their cooperation in determining possible standards for future employees. He administered L. O. M. A. Test No. 1--Form A according to the directions supplied by the Association; in an effort to allay any suspicions that the test results might affect the status of any worker, he and his secretary (whose length of service excluded her from the group) also took the test.

There are only 62 test results, since one employee had left the company after the ratings were made and two others were absent from the office when the test was administered. In comparisons of test scores with rating scores, and in other comparative treatment of the data, these three cases have been omitted.

In most of the tabulations which appear in this study, both figures and percentages are presented. Instances of percentages totaling slightly more or less than 100 are the result of their having been rounded off to facilitate comparisons. For the sake of preciseness, the medians of all scores are stated exactly.

¹ Committee on Tests, Report on L. O. M. A. Test No. 1--Forms A and B, p. 2.

CHAPTER III

DEVELOPMENT OF L. O. M. A. TEST NO. 1

The Life Office Management Association is an organization whose members are life insurance companies. At the annual convention in 1935 there was appointed a committee whose purpose was

to make further studies of intelligence
and aptitude tests and report at a later
date¹

Prior to this appointment there had been other committees that had reported at yearly meetings. These reports were of a general nature; they described tests and experiments with apparently individually chosen tests in member companies. The selection of this new group, in 1935, proved to be more significant than was noted in the statement which appeared in the Annual Proceedings. Since that time the committee on tests moved with more direction toward the specific goal of devising pre-employment tests for the exclusive use of member life insurance companies. In 1937 the designation for this group of investigators became simply "Committee on Tests".

The newly named committee made its first report in 1936. It was entitled "Report of Committee on Intelligence and Aptitude Tests for Clerical Workers." In the introduction of the report, this statement appears:

¹ Proceedings of the 1935 Annual Convention of the Life Office Management Association, p. 105.

. . . of the two possible types of tests to be studied, that is general ability and special aptitudes, it was decided to study the first year general ability tests only . . .²

The Committee described its study briefly in this report. More detail of the preliminary investigation was given by Charles W. Davidson, who worked with this group, in the Personnel Journal of June, 1937. There, Mr. Davidson presented the results of the examination of six tests: Bureau Test VI, derived from the Army Alpha; Thurstone Clerical Test, consisting of eight subtests; Modification of Thurstone, consisting of nine subtests; Minnesota Vocational Test for Clerical Workers; O'Rourke General Classification Test, Senior Grade; and O'Rourke Clerical Ability Test, Junior Grade. The last was abandoned when it "failed to give satisfactory distribution in the group studied."³

For the selection of the various tests the Committee agreed upon these criteria:⁴

1. The test should give distribution of total scores on the various parts of the test. This might be called the primary requisite for any test, since without a distribution of scores there is no means of differentiating between individuals, and the test is valueless for selection purposes.
2. Scores should be related to success on the job as measured by the supervisors' ratings and/or
3. scores should be related to promotability as measured by the level of job attained at the end of a given period of employment.

2 Marion Bills, "Report of Committee on Intelligence and Aptitude Tests for Clerical Workers," Proceedings of the 1936 Annual Convention of the Life Office Management Association, p. 66.

3 Charles W. Davidson, "Evaluation of Clerical Tests," Personnel Journal, June, 1937, p. 57.

4 Ibid., p. 58.

For the basic group of 94 subjects, the following data were gathered:⁵

Sex: 75 women; 19 men
 Age range: 17 to 69 years; average 26.2
 Education: from grammar school to college
 post-graduate; average 12.3
 Job Level: messenger to elected officer,
 being based on Bingham's
 classification⁶
 Supervisory Rating

When the ratings were made and examined, the distribution was found concentrated in the upper ranges. These ratings were correlated with the scores made by the group to whom the test was administered, with these results:

TABLE OF CORRELATIONS⁷

Test Score vs. Supervisors' Rating

	No. of Cases	Coeff. of Correlation	Stand. Error of Coefficient
Bureau VI	94	.41	.09
O'Rourke Senior	82	.40	.09
Thurstone	94	.44	.08
Mod. Thurstone	94	.37	.09
Minnesota Clerical			
Number score	94	.27	.10
Name score	94	.29	.09

In the discussion published in the Personnel Journal, Davidson pointed out that⁸

. . . a test in the employment office is not expected to predict an exact rating from an exact score but rather an approximate rating from a score range.

⁵ Davidson, op. cit., p. 59.

⁶ The classification used reads: "simple clerical," "complicated clerical," and "decision making jobs."

⁷ Davidson, op. cit., p. 60.

⁸ Ibid.

He makes the same generalization regarding test scores and job classification; that is:⁹

We expect the prediction of the probable attainment of a given job level from a score range.

The test scores were also correlated with job levels; this comparison was made, however, with only 49 of the original cases, since the subjects in this comparison were required to have been employed for five years or more. This limitation is explained by Davidson, as follows:¹⁰

The actual job held is without doubt the best measure of promotability, but in accepting this criterion we obviously find it necessary to consider the individual's length of service. The length of service necessary for attainment of a job level varies from organization to organization . . .

Other factors, it was felt, such as chances for promotion within a given company and the current economic conditions, further influence the promotion of employees. The decision to limit the cases to those people hired before 1932 reduced the size of the group to 49.

The following tabulation reveals the absence of relationship between test scores and clerical tests (the Minnesota Number and Name) and the presence of this relationship between mental alertness tests and test scores:

Table of Correlations--Test Scores vs. Promotability¹¹
(Promotability--Job Level Attained after 5 Years or More of Service)

<u>Test</u>	<u>No. of Cases</u>	<u>Correl. Coeff.</u>	<u>S. E. of Coeff.</u>
Bureau Test VI	49	.75	.06
Thurstone	49	.81	.07
Modified Thurstone	49	.65	.08
O'Rourke, Senior	40	.77	.06
Minnesota, Number	49	.07	.14
Minnesota, Name	49	.34	.13

9 Ibid., p. 63.

10 Davidson, op. cit., p. 62.

11 Ibid., p. 63.

As a result of these findings, all clerical material was eliminated from the mental alertness tests. The correlation coefficients of test scores on the complete mental alertness tests and job level are compared in the tabulation, reproduced below, with the coefficients of test scores on selected parts of the tests and job level.

Test	Correlations with Promotability ¹²	
	Total Score	Score on Selected Parts
Bureau Test VI	.75 ± .06	.82 ± .05
Thurstone	.71 ± .07	.74 ± .06
Modified Thurstone	.65 ± .08	.79 ± .05

The Committee concluded that

. . . the more a test is limited to verbal and numerical material the better it functions as a basis for the prediction of promotability.¹³

In the report to the Association, when Davidson described the development of L. O. M. A. Test No. 1, he confined his comments on this preliminary study to the analysis of Bureau Test VI. The above tabulation shows that the relationship between test score and job level is highest with this test. Davidson offered the figures presented in Charts 1 and 2, which appear on pages 17 and 18. For these data, the classification of scores is by job level, which is described as:¹⁴

JOB LEVEL

- I Simple clerical work involving strict adherence to simple rules.
- II Complicated clerical work where the rules are more numerous and complicated.
- III Work in which decisions are to be made and where definite rules have not been previously formulated.

¹² Charles W. Davidson, "Analysis of a Clerical Test," Personnel Journal, July, 1937, p. 98.

¹³ Ibid.

¹⁴ Charles W. Davidson, "Report of Committee on Tests--L. O. M. A. Test No. 1," Proceedings of the 1936 Annual Convention of the Life Office Management Association, p. 70.

BUREAU TEST VI

Chart Showing Per Cent of Each Group Divided
According to Job Level Attained
After 5-10 Years' Service

Job Classification				
III	4%	11%	59%	Correlation between B. T. VI Scores and Standard of Promotability $r = .56$
II	25%	50%	41%	
I	71%	39%	0%	
	100%	100%	100%	
No. of Cases	69	154	27	250 = total group
B. T. VI Scores	0-70	71-120	121+	

C H A R T 1¹⁵

15 Davidson, op. cit., p. 71.

BUREAU TEST VI

Chart Showing Per Cent of Score Groups Divided
by Job Level Attained After
5-10 Years' Service

Scores Based on Four Parts of Total Test:
Opposites, Number Series, Relations
and Information.

Job Classification				
III	5%	16%	50%	Correlation between B. T. VI Scores and Standard of Promotability $r = .54$
II	25%	52%	50%	
I	70%	32%	0%	
	100%	100%	100%	
No. of Cases	93	139	18	250 = Total Group
B. T. VI Scores	1-60	61-100	101+	

C H A R T 2¹⁶

The examination of these tables resulted "in the use of four parts of the original test."¹⁷ This decision is justified by the observation that:¹⁸

"A slightly lower efficiency is indicated than for the total Bureau test score as shown by the percentage of first classification people following in the middle score range of 61-100 . . . but the decreased predictive efficiency is not great enough to outweigh the increased administrative and score efficiency."

The test was to be revised, however, because

- 1) in localities where it has been used, applicants know what to expect
- 2) some of the material is technical for the army, some obsolete
- 3) of complications in administration and scoring;¹⁹

and the Committee set about the development of new materials, using 400 high school students and graduates and college graduates. Though these studies were made with a group including none of the original 97 subjects, the scores on the revised test ranged from 20 to 220 and followed the normal curve of distribution satisfactorily enough to meet the first criterion for the selection of a test.

Chart 3, reproduced on page 20, presents the data from the new test, subsequently known as L. O. M. A. Test No. 1. Chart 4 (page 21) breaks down these scores into four intervals, thereby introducing the critical score of 110. It will be noted that the total groups in Charts 1 and 2 are numbered as "250" and Charts 3 and 4 as "200." The writer has been unable to discover when these groups were selected and how they were chosen.

¹⁷ Davidson, *op. cit.*, p. 71.

¹⁸ *Ibid.*, p. 72.

¹⁹ *Ibid.*, p. 71. The Bureau Test VI presently available from the Psychological Corporation does not possess these difficulties of administration and scoring; it is, like L. O. M. A. Test No. 1, an omnibus type, and the method of scoring is precisely that used for L. O. M. A. Test No. 1.

L. O. M. A. TEST NO. 1

Chart Showing Per Cent of Each Score Group, Divided
According to Job Level Attained After
5-10 Years' Service

Job Classification	0%	17%	<u>61%</u>	Correlation between LOMA No. 1 Scores and Standard of Promotability $r = .60$
III	0%	17%	<u>61%</u>	
II	39%	<u>60%</u>	39%	
I	<u>61%</u>	23%	0%	
	100%	100%	100%	
No. of Cases	28	126	46	200 = Total Group
LOMA No. 1 Scores	0-80	81-140	141+	

C H A R T 3²⁰

L. O. M. A. TEST NO. 1

Chart Showing Percentage of Score Groups Distributed
by Job Level Attained After
5-10 Years' Service

Job Classification	0%	12%	22%	61%	
III	0%	12%	22%	61%	Correlation between LOMA No. 1 Scores and Standard of Promotability $r = .60$
II ₂	11%	16%	32%	33%	
II ₁	28%	45%	25%	6%	
I	61%	26%	25%	0%	
	100%	100%	100%	100%	
No. of Cases	28	58	68	46	200 = Total Group
LOMA No. 1 Scores	0-80	81-110	111-140	141+	

CHART 4²¹

From these tables, the Committee concluded that

"even limited comparison indicates that the new test is as good as the parent test for the purpose of predicting promotability of clerical applicants."²²

In summary of the report, the chairman of the committee says of L. O. M. A. Test No. 1,

. . . this is a long range test and the committee does not believe it will predict immediate success or failure on any job but the figures would seem to indicate that it will predict promotability after several years of service.²³

The presentation of L. O. M. A. Test No. 1 to the Association in 1936 led to its adoption and use by some of the member companies. Four years later, the committee reported the results of a follow-up study made on 394 test results of applicants (72 men and 322 women) to whom the test was administered between October, 1936, and October, 1937.

Test scores for 107 of these persons, 24 men and 83 women, who had left the employ of the companies were classified according to score and reason for leaving. The length of schooling of the individuals was also tabulated. The Committee has this to say:

While, of course, 107 is too small a number upon which to base definite conclusions, it would seem quite evident that those scoring over 135 are tending to leave more rapidly than those scoring under that point. An examination of the tables in a little detail shows that this is true of those leaving for another position, those leaving to attend school, and those leaving for marriage. Those discharged are evenly distributed as are those who left for miscellaneous reasons. If we consider leaving to continue school and leaving for marriage as separations which we would not want to prevent, there is only the high percentage of those scoring high and leaving for another position to be somewhat concerned about.²⁴

²² Davidson, *op. cit.*, p. 74.

²³ Bills, *op. cit.*, p. 75.

²⁴ Committee on Tests, Report on L. O. M. A. Test No. 1--Forms A and B, Report No. 3, p. 2.

On the remaining 285 persons, the Committee secured, in addition to their scores, job descriptions, supervisory rating for their specific job, and an "over-all" rating on each individual's value to the company he served. The job descriptions were expanded to five classes, rather than the original three; this new scale was as follows:²⁵

- I. Simplest routines; retention of very few rules; simplest typing.
- II. Operations largely repetitive; more rules to be remembered than lowest grade; typing requiring some rules; beginning stenography; simple calculating.
 - IIA Typing requiring a few rules; repetitive clerical; simple machines.
 - IIB Beginning stenography; more complicated machine work.
 - IIC Larger number of rules to be applied; little variation in operations.
- III. Variety of operations; large number of rules to be applied; stenography with some secretarial and clerical work; more complex computations.
- IV. Large number of rules, where selection of rule to apply depends on complete understanding of situation; taking original action based on worker's decision but not of serious consequence.
- V. Technical; complicated calculations.

The over-all ratings afforded a "fair distribution, from 1, high, to 6, low, although no one was willing to admit a really poor employee."²⁶

²⁵ Stevens, "Report on Follow-up of L. O. M. A. Test No. 1," Proceedings of the 1940 Annual Conference of the Life Office Management Association, p. 134.

²⁶ Ibid.

	<u>Rating</u>	<u>No.</u>
1.	Outstanding	13
2.	Good	95
3.	Above Average	69
4.	Average	90
5.	Below Average	20
6.	Poor	0

The Committee found a positive relationship between test score and over-all ratings; this relationship, they felt, would tend to be lowered by the following factors:²⁷

1. The classification of jobs, while very carefully done, was done entirely from the written descriptions and without discussion to clear up any questionable points . . .
2. As we all know, promotional chances vary considerably from department to department within one company, and it would seem most likely that there is a rather wide variation of chances of promotion among companies.
3. The ratings were of necessity done by the supervisors, which means that they were done by a large number of people, and the probability is that there were variations in the strictness of ratings.

In the report of the Committee, made to the annual conference, a fourth factor was listed; i. e., " . . . the test evidently has already been used to form a part of the selective program."²⁸ Its omission in the final Report which was sent to all member companies suggests that either this statement is not true or that it would not be expected to lower the results of the follow-up study.

The Committee then felt the "following conclusions regarding the present group . . . to be entirely justified:"

²⁷ Committee on Tests, Report on L. O. M. A. Test No. 1--Forms A and B. Report No. 3, p. 4

²⁸ Stevens, "Report on Follow-up of L. O. M. A. Test No. 1." Proceedings of the 1940 Annual Conference of the Life Office Management Association. . . . p. 134.

1. Employees with high test scores are more likely to be promoted to high job levels and to be rated good or outstanding by their supervisors than are employees with low scores.
2. There is a noticeably closer relation of test scores to promotability than to over-all rating, and of test scores to over-all rating than to rating on the specific job performed.
3. For the total group, including both sexes and all educational groups, those scoring at 135 and above tend either to be promoted fairly rapidly or to leave the company. Those with lower scores tend to remain, even though more slowly promoted, if at all.
4. Within this group turnover is higher for men than for women; in general higher for those with high test scores than for those with low test score; and for men, higher for those with 13 to 15 years' education than for either college graduates or those with high school (education) only.
5. The results as a whole provide evidence supporting the original findings that L. O. M. A. Test No. 1, Form A, may be used as a test of promotability and would seem to add some evidence that the scores in it predict to some degree the rating of the supervisor on the individual three years later.²⁹

L. O. M. A. Test No. 1 has been developed into two tests, Form A and Form B, either of which may be administered by member companies. The provision of the two forms is to prevent the duplication of testing; if an applicant has already taken the test administered by one life insurance firm in the Association, he may be presented the alternate form upon his application for employment with a second company.

In the Manual of Directions for L. O. M. A. Test No. 1, Form A, the following directions are given for the interpretation of scores made on the test:

²⁹ Committee on Tests. Report on L. O. M. A. Test No. 1--Forms A and B. Report No. 3, p. 7.

Interpretation of Scores

The test may be adopted immediately in any employment office on the basis of the norms and critical scores that are presented in the chart on Page 4. This chart indicates that a person who scores below 70 has 69 out of 100 chances that he will still be doing simple clerical work even after 5 to 10 years of service; that he has 25 out of 100 chances that he will be doing complicated clerical work of the first grade; and 6 out of 100 chances that he will be doing complicated clerical work of the second grade. There is apparently no chance at all that he will have been promoted to a decision making job.

On the other hand, an individual who secures a score somewhere between 150 and 169 has 61 out of 100 chances that at the end of 5 to 10 years of service he will have been promoted to a decision-making job; 28 chances out of 100 that he will be doing complicated clerical work of grade 2; and 11 chances out of 100 that he will be doing complicated clerical work of grade 1. There is apparently no chance at all that he will still be doing simple clerical work.

The most important groups for general employment purposes will be the three middle groups for which the score range extends from 90 to 149. Taking the score range from 110 to 129 as representative of all these groups it may be noted that an individual who scores within this range has 17 chances out of 100 of being promoted to a decision making job after 5 to 10 years of service; 32 chances out of 100 of having been promoted to complicated clerical work of grade 2; 25 chances out of 100 of having been promoted to complicated clerical work of grade 1; and 25 out of 100 chances of still remaining in a job requiring very simple clerical work.

Applicants should be selected upon the basis of the ultimate job level the Employment Manager has in mind for an applicant when he hires him. Scores of less than 70 may in some instances be acceptable for clerical jobs of a very simple nature, but for complicated clerical work of grade 1, the Employment Manager should make his selections from the test score range of 110 to 149; and for decision making jobs all selections should be made from scores over 150. (A commonly accepted critical score level is 100.)

The limits and suggested score ranges apply in a general way to all clerical work but each company should as soon as possible establish its own critical levels and score ranges so that the test may best serve the purpose of the particular company. In establishing critical score levels one must take into account the average scores of the groups of applicants who are available for the job as well as the standards for the

job itself. Once a minimum score has been set, however, it should not be varied for such a practice will tend to break down the whole system of selection by tests. (It may be noted parenthetically, however, that it is sometimes impossible to maintain critical score levels just exactly at the points desired. It is always desirable, nevertheless, to make every reasonable effort to keep critical score levels intact.)

Score Norms

Scores on L. O. M. A. Test 1-A may be interpreted by means of the chart presented on Page 4, adequate directions for which have already been given, or they may be interpreted by either one of the following tables.

In the first table, decile scores have been given. The left-hand column indicates in which tenth of the entire distribution (based upon 4432 cases) a score falls, while the figures in the right-hand column indicate the score ranges for each tenth of the distribution. Decile 10 is the highest score group, indicating as it does the highest tenth of the distribution, while decile 1 is the lowest score group, indicating as it does the lowest tenth of the distribution. A score that falls in decile 10 may be considered very high; one that falls in deciles 8 or 9 may be considered high; one that falls in decile 4, 5, 6, or 7 should be considered average; one that falls in deciles 2 or 3 is low; and one that falls in decile 1 is very low.

<u>Decile</u>	<u>Score Range</u>
10	142 & up
9	128 - 141
8	120 - 127
7	111 - 119
6	105 - 110
5	98 - 104
4	91 - 97
3	84 - 90
2	75 - 83
1	0 - 72

Another method of interpretation is in terms of letter grades. As given below it is a cruder method having but 5 grades, but this is sometimes an advantage as fewer divisions have to be kept in mind. The letter grades are given in the first column starting from the left, test score ranges are presented in the second column, and the per cent of each letter group that after 5 to 10 years' service had been promoted to jobs requiring complicated clerical work of grade 2 or to decision making jobs and which may therefore be considered successful, are presented in column three. Qualitative interpretations are offered in column four.

<u>Grade</u> (Based on Test Score)	<u>Score Range</u>	<u>% Successful</u>	<u>Interpretation</u> (Of Score in Relation to Employment)
A	150 & up	93%	Excellent
E	130 - 149	79%	Above Average
C	110 - 129	49%	Average
D	90 - 109	36%	Below Average
E	0 - 89	13%	Poor

The following table is reproduced from page 4 of the Manual;
frequent reference is made to it in the preceding paragraphs.

L. O. M. A. TEST 1-A

Chart showing percentage of score groups distributed by job level attained
after 5-10 years' service.

<u>Job</u> <u>Classi-</u> <u>fication</u>							
III	0%	10%	10%	17%	38%	61%	83%
II ₂	6%	6%	26%	32%	41%	28%	17%
II ₁	25%	45%	41%	26%	16%	11%	0%
I	69%	39%	23%	25%	5%	0%	0%
	100%	100%	100%	100%	100%	100%	100%
No. of Cases	164	31	39	47	37	18	12
LOMA I Scores	0-69	70-89	90-109	110-129	130-149	150-169	170+

I Simple clerical work.
II₁ Complicated clerical work, Grade 1.
II₂ Complicated clerical work, Grade 2.
III Decision making jobs.

For the purposes of this study, the two divisions of Job II, appearing in the table above may be combined so that structure will more nearly conform to the tabulation of data presented in Chapter IV.

Job
Classi-
fication

III	0%	10%	10%	17%	38%	61%	83%
II	31%	51%	67%	58%	57%	39%	17%
I	69%	39%	23%	25%	5%	0%	0%
	100%	100%	100%	100%	100%	100%	100%
No. of Cases	16	31	39	47	37	18	12
LOMA I Scores	0-69	70-89	90-109	110-129	130-149	150-169	170+

Since Form A of the L. O. M. A. Test No. 1 is the subject of this investigation, the description prepared by the Committee is presented here:⁵⁰

" . . . a mental alertness test. A score in this test does not indicate a special aptitude for any particular line of work, nor does it indicate that an individual will be above or below average in his production on a particular level of work. Scores made, however, do predict rather markedly the ultimate level of jobs which individuals may be expected to attain after a period of service.

It is suggested that the best place to apply it is between the preliminary and the final interview, thus saving the effort of testing those who would be eliminated by the preliminary interview, while still aiding in the formation of an opinion based on the final interview. This assistance will be in the form of an indication of the level of job which the applicant may be expected to attain, provided the personality factors—determined as yet only by interview—are acceptable."

⁵⁰ Committee on Tests. Report on L. O. M. A. Tests: No. 1, Forms A and B; No. 2, Form A; No. 3-T; and No. 4-M. Report No. 1. New York: Life Office Management Association, April 1, 1940, p. 2.

CHAPTER IV

DATA FROM TEST SCORES OF PRESENT STUDY

The scores on L. O. M. A. Test No. 1, Form A, administered to 62 life insurance company employees participating in this study, range from 45, low, to 182, high, with a median of 88 (see Appendix). Inspection of the data suggested a three-interval grouping of these scores as presented in the tables: 0-68, 69-118, and 119 and above.

In Table I appear these scores, distributed among the three job levels:

TABLE I

Number and Percentage of Employees in Each Score Range,
Classified According to Job Level Attained
After 1-5 Years' Service

Job Classification	Score Range					
	0-68		69-118		119 & up	
	No.	%	No.	%	No.	%
III			3	7	2	29
II	5	45	28	64	2	29
I	6	55	13	30	3	43
TOTAL	11	100	44	100	7	100

Job III, the highest level,¹ is represented by only five cases.

The lower limit of the score range for these cases is 69, with no cases falling in the lowest bracket. Two of the persons employed on this level are shown, in Table II, to have been in the service of this company for

¹ Job III involves jobs "for which definite rules have not previously been formulated." See classification of job levels, page 16.

less than two years. One of these is considered a "specialist" and was initially employed on this level. The fact that the time limits of this study cover a period of "war time," when women as well as men are

TABLE II

Number of Employees in Each Score Range,
Classified According to Job Level
And Length of Service

Length of Service*	Score Ranges		
	0-68	69-118	119 & up
III			
1-2 yrs.		1	1
2-3 yrs.		1	
3-4 yrs.			
4-5 yrs.		1	1
II			
1-2 yrs.	4	16	2
2-3 yrs.	1	8	
3-4 yrs.		2	
4-5 yrs.		2	
I			
1-2 yrs.	4	9	
2-3 yrs.	2		
3-4 yrs.		4	
4-5 yrs.			3

* "years, less than" should be read between each pair of numbers in this column, as "1 year, less than 2."

entering the armed services and when employees of private business are being attracted into war work, may account for the short period of employment of these two persons in Job III and for their being in these positions at all. Since the group in the highest job level is markedly smaller than either of the other two under consideration, any generalization other than that concerning the grouping of the scores in the upper brackets seems unwarranted.

The largest grouping of the scores in the second interval is decidedly in Job II. This condition is present in the L. O. M. A. tabulations as well. Although the same number of persons in Jobs II and III attained scores in the highest interval, it should be pointed out that the 2 cases in Job II are employees of less than two years and represent less than one per cent of the total number of employees of this classification; because of the small number of cases, the two high scores in Job II represent forty per cent of the persons in this job level.

In Job I, the cases fail to follow the L. O. M. A. pattern. Though the majority of scores between 0 and 69 were made by people in Job I, the majority of the highest scores in the present study likewise fell in the classification of Job I. The 3 individuals in this job level who scored above 119 have been with this company for three years or more. Here, then, is an unexpected justification for Mr. Davidson's statement, quoted earlier, that "a test in an employment office is not expected to predict an exact rating from an exact score . . ."

The distribution of the total scores presents a concentration in the lower intervals, even though it tends toward the normal. This spread differs from the results reported by the Committee on Tests, appearing in Chapter II, Chart 3, in that there the concentration of scores is toward the upper brackets. Nevertheless, the data appear to show a trend of the higher scores to group in the higher job levels.

When the test scores are regrouped to conform to the intervals suggested in the directions for the interpretation of the scores² and

² L. O. M. A. Test No. 1--Form A, Manual of Directions. New York: Life Office Management Association, 1942, p. 2. (Quoted on pages 26-27, Chapter III.)

employees for Job I selected from the scores of 70-109, those to be promoted to Job II, from 110 to 149, and those to be promoted to Job III, from 150 and above, the following result is obtained:

TABLE III

Data of Table II, Regrouped in Categories Recommended for General Employment Purposes

Job Classification	Score Range			
	0-69	70-109	110-149	150 & up
III		3	2	
II	5	25	3	2
I	7	11	4	

This distribution allows for no differentiation between the job levels, since the majority of cases in each level is found in the second score interval. The arrangement utilized in Table I has the advantage of affording implementation to the suggestion in the Manual, that each company work to set its own critical scores.

For the purpose of introducing the Committee's suggested critical score of 100, the second score range, 69-118, of Table I is divided at 100 in Table IV. This arrangement of the data does not dispute the tendency of persons in higher job levels to achieve higher test scores. It does, however, reveal that more than half the subjects obtained scores below 100.

The small number of cases (5) in Job III and their grouping in two separated score levels discourages the suggestion of a critical score for this job classification. The critical score of 100 is acceptable

for Job II, since 88% of the cases achieving scores between 99 and 119 are in this job level.

TABLE IV

The Data of Table I, Regrouped to Introduce the Suggested Critical Score of 100

Job Classi- fication	Score Ranges									
	0-68		69-99		100-118		119 & up		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
III			3	11			2	7	5	8
II	5	45	14	50	14	88	2	64	35	57
I	6	55	11	39	2	12	3	30	22	35
Total	11	100	28	100	16	100	7	100	62	100

Seventeen of the 22 cases (80%) in Job I have scores below 100; 55% of all the scores below 69 and 39% of all the scores between 68 and 100 are found in this job level. This distribution suggests a critical score of 69 for workers to be employed in jobs of the lowest classification.

TABLE V

Comparative Decile Scores Obtained
in Present Study and in
Original Study

Present (N = 62)		Manual (N = 4,432)
Score Range	Decile	Score Range
119 & up	10	142 & up
108 - 118	9	128 - 141
103 - 107	8	120-- 127
99 - 102	7	111 - 119
85 - 98	6	105 - 110
76 - 84	5	98 - 104
73 - 75	4	91 - 97
70 - 72	3	84 - 90
58 - 69	2	73 - 83
0 - 57	1	0 - 72

In Table V, decile scores for the test administered for this study are compared with those found in the Manual of Directions and quoted in Chapter II. It may be noted that the results in the Manual concern 4,432 cases, as compared with only 62 in the present study. Although the range represented in the top decile of the present study, column one, is lower than that of the original study, there were 4 cases achieving scores over 142; the highest score obtained in the present study was 182.

On page 28 there appears a revision of the table entitled "L. O. M. A. Test 1-A, Chart showing percentage of score groups distributed by job level attained after 5-10 years' service." The distribution in Table VI

TABLE VI

Percentage of Score Groups Distributed by Job Level Attained after 1-5 Years' Service

Job Classification	0-69	70-89	90-109	110-129	130-149	150-169	170+
III	0%	14%	0%	17%	33%	0%	0%
II	42%	48%	83%	50%	0%	0%	100%
I	58%	38%	17%	33%	67%	0%	0%
No. of Cases	12	21	18	6	3	0	2
LOMA 1-A Scores	0-69	70-89	90-109	110-129	130-149	150-169	170+

shows the test scores for this study arrayed in the same intervals as were used in the original table. These scores follow a pattern similar to that obtained on the Committee's test. Though the scores here are concentrated in lower brackets (with the exception of the two cases in the highest interval), these data seem to indicate that those with higher scores, after one to five years' service, tend to be in more responsible jobs.

CHAPTER V

DATA FROM SUPERVISORY RATINGS OF PRESENT STUDY

The supervisory ratings of the 65 employees selected for this study, when expressed numerically, produced values ranging from 28, low, to 52, high, with a median of 43.5 (see Appendix). In Table VII the frequency distribution appears in six intervals, classified according to length of service.

TABLE VII

Number of Employees in Each Rating Range, Classified According to Length of Service

Length of Service*	Supervisory Rating Range						TOTAL
	24-29	30-34	35-39	40-44	45-49	50-55	
4 - 5			2	1	1		4
3 - 4			1	2	2	2	7
2 - 3			4	4	5		13
1 - 2	1		6	21	11	2	41
TOTAL	1		14	27	19	4	65

*"years, less than" should be read between each pair of numbers in this column, as "4 years, less than 5."

The totals of the rating columns reveal an almost normal distribution of the scores; this distribution suggests the reliability of this type of measure. As in the original L. O. M. A. study, however, there is in these ratings a marked leaning on the part of the supervisors toward higher ratings; there is only one comparatively low rating, and

that is above 25, which would be the half-way point--or median--on this scale. It may be said here, too, that "no one admitted a really poor employee."¹

The distribution of the scores among the workers employed for less than two years more nearly approximates that of the totals than do those of any other service group. Since those of less than two years' service comprise almost two thirds of the total cases, this distribution is not unexpected. Inspection of the table suggests that a worker may be more highly rated in his second year than in his later years of employment. This possibility is more marked when the frequency distribution is expressed in percentage of total in a score interval as in Table VIII.

TABLE VIII

Percentage Distribution of the Data of Table VII

Length of Service*	Supervisory Rating Range					TOTAL
	24-29	30-34	35-39	40-44	45-49	
4 - 5			14%	4%	5%	
3 - 4			14%	4%	12%	50%
2 - 3			29%	15%	26%	
1 - 2	100%		43%	78%	57%	50%
TOTAL	100%		100%	100%	100%	100%

* "years, less than" should be read between each pair of numbers in this column, as "4 years, less than 5."

This distribution offers two possible interpretations: (1) The workers who have been recently employed possess to a greater degree the qualities graded on the supervisory scales. (2) Continued

¹ See page 23.

association with members of their staffs provide opportunity for the supervisors to amend their earlier ratings. These observations are obviously deductive in character and can serve only to emphasize the weakness of any subjective measure of individual value or worth and the necessity for discrimination in the use of ratings.

In Table IX the ratings, expressed in the same score intervals as in Tables VII and VIII, are classified according to the job level of the employee. The ratings cluster in this tabulation around the median,

TABLE IX

Distribution of the Data of Table VII, Classified According to Job Level Attained after 1-5 Years' Service

Job Classi- fication	Supervisory Rating Range						TOTAL
	25-29	30-34	35-39	40-44	45-49	50-55	
III				2	2	1	5
II	1		9	13	10	2	35
I			5	11	6		22
TOTAL	1		14	26	18	3	65

which is in the fourth interval (40-44). Workers of Job III have no rating lower than 40, and no worker in Job I has a rating above 49; the ratings for those cases in Job II follow a normal distribution. There is some slight relationship between job level and supervisory rating.

Continued analysis of these ratings led to the tabulation of the scores on each item from the rating form, classified according to job level of the worker; these tables are in the Appendix. Examination of the scale, on page 10, reveals that, of the eleven traits listed, three--

Speed, Accuracy, and Knowledge of Work--may be regarded as occupational; the remaining eight are qualities of personality or of character. In only three traits, Initiative, Cooperation, and Dependability, is there any indication of relationship of the rating received to the job level attained; this tendency is not, even in these instances, pronounced enough to suggest that the ratings on any or all of these three attributes may predict the promotability of the employee. The remaining eight items appear to have no relationship to job level.

The comparison of supervisory ratings and the scores obtained on L. O. M. A. Test No. 1--Form A may be seen in Table X.

TABLE X

Number of Employees in Each Rating Range, Classified According to Scores on L. O. M. A. Test No. 1--Form A

Test Scores	Supervisory Rating Range						TOTAL
	25-29	30-34	35-39	40-44	45-49	50-55	
119 & up				5	2		7
69 - 118	1		12	14	14	3	44
0 - 68			2	6	3		11
TOTAL	1		14	25	19	3	62

Though in no case is a score of 119 or better accompanied by a supervisory rating below 40, any other relationship between ratings and test score cannot be discerned in this table.

Further evidence of this lack of relationship is disclosed when statistical procedures are applied to these data. When test scores and

rating scores were correlated by the product-moment method, the coefficient of correlation was found to be $-.0002$. This measure was checked by the Spearman ranked-difference method, which yielded a coefficient of $-.05$. It appears, then, that there is an absence of measurable relationship between test scores and rating scores; this finding would preclude prediction of rating scores from test scores or, conversely, of test scores from rating scores.

The supervisory rating scale employed by the insurance company is not, as a result of this investigation, judged worthless. It is the appraisal, by a supervisor, of the suitability of a particular individual for his particular duties, and furnishes information of value to the personnel office. It cannot be said to possess any power to predict promotability or the degree of mental alertness of an employee.

CHAPTER VI

CONCLUSIONS

The purpose of this study, as expressed in Chapter I, "to re-evaluate the test (L. O. M. A. Test No. 1--Form A) in terms of the relationship between test score and the job level of the employee" is the major consideration of this chapter. It has been pointed out that the scores in this study are generally lower than those listed by the Committee. This disparity of data is accounted for to some extent by the conditions operative in a nation at war and may be further traceable to the fact that in the follow-up study of the Committee, with which this investigation is more nearly comparable in time limit, it was presumed that some workers had been selected on the basis of test scores. Despite this difference and the limitation of this study to test scores from 62 employees of from one to five years' service, the findings of the present study parallel those of the original.

The primary conclusion from this investigation is that scores from L. O. M. A. Test No. 1--Form A do predict promotability of the employee. In a period of from one to five years of employment, 7% of those attaining scores between 69 and 118 and 29% of those with scores above 119 have advanced to the highest job level; 64% and 29% of these groups, respectively, are in the intermediate job level. The absence of data as conclusive as those reported by the Committee may be due to the disproportionate size of the number of workers of less than two years of employment, or to the lack of promotional opportunities, a phase which was not examined in this investigation.

In the light of the data in Table IV, the probable critical score for workers of Job I classification is 69; tests for those persons to be promoted to Job II should yield scores above 99 and below 120. Because of the small number of cases in the highest job classification, no critical score is identified for that level. The suggested scores should be regarded only as tentative standards, to be revised as additional personnel records accumulate.

No claim is made for the power of L. O. M. A. Test No. 1 to predict supervisory ratings on the job; it may be pointed out, moreover, that the evidence presented in Chapter V signifies but slight relationship between the two measures. This finding is closely similar to that of the follow-up study made by the Committee in 1940: that of three measures compared with test scores, job level, over all rating (i.e., estimate of the individual's worth to the organization), and on-the-job ratings, the last showed the least relationship with test scores.

No comparisons of test scores and ratings on individual traits listed on the scale have been reported in the Life Office Management Association studies. The findings of the present study do not reveal any notable relationship between test scores and the ratings on any item listed on the supervisory rating scale.

The supervisory ratings appear to have some relationship with the job level attained after one to five years' service. This finding is not unexpected in that the ratings represent evaluations of the individual's fitness on a particular job and not on the individual's worth in comparison with all other employees in various jobs.

Nor are these ratings commensurate with the length of employment of the individual. To the contrary, it appears that those people with short periods of service are rated more highly than are those who have been employed in this firm for longer periods of time.

This study of L. O. M. A. Test No. 1--Form A substantiates the conclusions reported by the Life Office Management Association's Committee on Tests with regard to the ability of the test to predict job level attainable after one to five years' service, which is a shorter period than that (5-10 years) of the Committee's reports. Concerning the supervisory ratings, this study has examined more widely the potential abilities of the measure than did the Committee. The findings agree with those of the original study in that the supervisory ratings show little ability to predict test scores; a further conclusion of this study is that persons with higher job classifications after one to five years' service tend to have higher supervisory ratings.

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APPENDIX

APPENDIX

SUPERVISORY RATINGS ON INDIVIDUAL TRAITS APPEARING
ON THE SCALE, CLASSIFIED ACCORDING
TO JOB CLASSIFICATION

Appearance

Job Classifi- cation	Supervisory Rating					Total
	1	2	3	4	5	
III				3	2	5
II			1	24	12	37
I				17	6	23
Total			1	64	20	65

Type

Job Classifi- cation	Supervisory Rating					Total
	1	2	3	4	5	
III				4	1	5
II			4	29	4	37
I				21	2	23
Total			4	54	7	65

Character

Job Classifi- cation	Supervisory Rating					Total
	1	2	3	4	5	
III				3	2	5
II				29	8	37
I				20	3	23
Total				52	13	65

Initiative

Job Classifi- cation	Supervisory Rating					Total
	1	2	3	4	5	
III				4	1	5
II		4	11	19	3	37
I		2	10	10	1	23
Total		6	21	33	5	65

Cooperation

Job Classifi- cation	Supervisory Rating					Total
	1	2	3	4	5	
III				2	3	5
II				22	15	37
I			1	14	8	23
Total			1	38	26	65

Speed

Job Classifi- cation	Supervisory Rating					Total
	1	2	3	4	5	
III			1	4		5
II		2	13	20	2	37
I		1	10	9	3	23
Total		3	24	33	5	65

Accuracy

Job Classifi- cation	Supervisory Rating					Total
	1	2	3	4	5	
III			1	4		5
II		1	12	23	1	37
I			10	13		23
Total		1	23	40	1	65

Dependability

Job Classifi- cation	Supervisory Rating					Total
	1	2	3	4	5	
III				5		5
II		1	9	18	9	37
I			2	16	5	23
Total		1	11	39	14	65

Knowledge of Work

Job Classifi- cation	Supervisory Rating					Total
	1	2	3	4	5	
III				5		5
II		1	6	18	12	37
I			3	14	6	23
Total		1	9	37	18	65

Supervisory Ability

Job Classifi- cation	Supervisory Rating					Total
	1	2	3	4	5	
III				5		5
II	2	6	14	13	2	37
I	1	9	13	9		23
Total	3	6	27	27	2	65

Interest in Work

Job Classifi- cation	Supervisory Rating					Total
	1	2	3	4	5	
III				2	3	5
II			12	18	7	37
I			4	18	1	23
Total			16	38	11	65

ARRAY OF SUPERVISORY RATING SCORES

(N = 65 M = 44 R = 28-52)

52	45	41
51	44*	41
51	44*	41
50	44*	40*
49	44	40*
49	44	40
48	44	40
48	44	39*
48	44	39
48	44	39
48	44	39
48	43	38
48	43	37
48	43	36
47	43	36
47	43	36
46	42	36
46	42	35
46	42	35
46	42	35
46	42	35
45*	41*	25
45	41*	

* The value of "3" has been arbitrarily assigned to "Supervisory Ability." See page 9.

ARRAY OF SCORES ON L. O. M. A. TEST NO. 1--FORM A

(N = 62	M = 88	R = 45-182)
182	99	71
175	99	71
148	98	71
145	96	71
134	95	69
124	91	64
119	88	60
114	87	60
111	84	58
110	83	58
110	82	54
108	82	54
108	80	54
107	79	53
107	75	50
106	75	45
105	75	
104	74	
103	74	
102	73	
102	72	
102	72	
101	72	