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FACTOR ANALYSIS OF OFFICER QUALIFICATION FORM QCL-2B

A CONTRACT RESEARCH REPORT TO

DEPARTMENT OF THE ARMY

THE ADJUTANT GENERAL'S OFFICE

PERSONNEL RESEARCH AND PROCEDURES DIVISION

PERSONNEL RESEARCH BRANCH

REPORT

by

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RESEARCH FOUNDATION

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Investigation of . Factor Analysis of Officer Qualification . . . . .
Form OCL 2B . . . . . .

Subject of Report . Final Report . . . . . .

Submitted by . . . . Robert J. Wherry . . . . . .

Date . . . . . February 28, 1950

PERSONNEL

This project was carried out under the direction of Robert J. Wherry in cooperation with the Personnel Research Section, The Adjutant General's Office, Department of the Army.

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TABLE OF CONTENTS

CHAPTER I
PREPARATION OF DATA

The Personnel Research Section, AGO, furnished IBM cards containing the responses of 231 officers, each rating a designated immediate subordinate officer on each of the 292 items of the Officer Description Form QCL-2B*. This form called for the rater to indicate on a five-point scale the degree to which the officer whom he was rating possessed each of the characteristics. The scale ran:

1. To a slight degree or not at all
2. To a limited degree
3. To the usual degree
4. To an unusual or outstanding degree
5. To an exceedingly high or the highest possible degree

The number marking each response was tabulated for each of the items. Responses were then dichotomized, as close to the 50 per cent mark as possible. Point of dichotomization for each item is shown in Table I, page 12.

Two items, No. 162 and No. 163, were discarded, since more than 90 per cent of responses were found in one category.

One item, No. 135, was discarded when it was found that more than one response was punched in 34 cases.

Three judges (Perloff, Jack Denton, and Margaret Denton) rated each item as "favorable" or "unfavorable." For favorable items, ratings at the low end of the dichotomized scale (1 or 2) were assigned a value of 0; and ratings at the high end (4 or 5) were assigned a value of 1. For favorable items, ratings at the low end were assigned a value of 1 and ratings at the high end were assigned a value of 0. Those items which were judged unfavorable and for which the ratings were reflected, are marked "R" in Table I, page 12.

These dichotomized and, where appropriate, reflected ratings were then punched on IBM cards, one card per rater. Items were multiply punched, 10 to each column.

At a later date, cards were supplied with the following data on each ratee:

1. Forced choice section on job proficiency.
2. Graphic rating on job proficiency-rater.
3. Graphic rating on job proficiency-indorser.
4. Forced choice section on personal qualifications
5. Graphic ratings on personal qualifications by rater.
6. Graphic ratings on personal qualifications by indorser.
7. Overall score on latest 67-1.
8. Average score on all available 67-1's.
9. Overall evaluation completed by officer making out QCL-2B.
10. Grade of ratee.
11. Criterion scale 1: friendship for ratee - average rating by co-worker group.
12. Criterion scale 2: value to Army - average rating by co-worker group.
13. Criterion scale 3: value in present job - average rating by co-worker group.

These 13 criterion variables were each coded into 10 class intervals. Coding classifications are shown in Table II, page 18.

CHAPTER II
THE FACTOR ANALYSIS OF THE ITEMS

A. Preliminary sorting into sub-tests.

Due to the large number of items it seemed possible that pre-sorting of the items into "factor" piles by visual inspection might speed up the Wherry-Gaylord iterative method. Accordingly a group from the research staff (Wherry, Campbell, Perloff, and Grant) conducted such a selection. The items were sorted into 13 piles according to the following categories:

1. Ability (14 items)
2. Attitude toward work (39 items)
3. Efficient use of subordinates (15 items)
4. Force (41 items)
5. General cultural level (9 items)
6. Knowledge of profession (8 items)
7. Military appearance (12 items)
8. Morality (16 items)
9. Originality (19 items)
10. Performance (22 items)
11. Relation to subordinates (36 items)
12. Relation to superiors (10 items)
13. Sociability (48 items)

The actual distributions of items in these sub-tests is shown in Table III, page 19.

It should be stressed that this "factor" selection was not intended to be either final or thorough. It simply seemed expedient to reduce if possible the large number of iterations possibly necessary on the Wherry-Gaylord method if the number of factors turned out to be at all large.

B. The Wherry-Gaylord Iterative Analysis.

Each of the 13 sub-tests was used in turn as a starting point for iterative analysis. After approximately 4 iterations in each case, the staff was surprised to discover that the items selected on the 13 scales fell roughly into three groups or patterns. The tests showing similar patterns in each of the three groups were

Group I - Ability, Attitude Toward work, Knowledge of Profession, Performance, Relation to superiors

Group II - Efficient use of subordinates, General cultural level, Military Appearance, Morality, Relation to subordinates, Sociability

Group III - Force, Originality

To test the validity of this classification the final sub-test scores for the 13 iterated scales were intercorrelated and each test was found to correlate at least .98 with every other test in its group. Actual correlations are shown in Table V, page 21.

Two further steps were taken to see whether further factors were obtainable. First all items not appearing in the 13 final sub-test scales were used as a 14th scale. Iteration of this group quickly resulted in another scale duplicating Group III. Secondly an examination was made of factor loadings and all items with loadings less than .30 on any of the three groups were selected as a 15th scale. Iteration of the group of items resulted in a sub-test which contained several new items. It was also tending to iterate toward one of the three groups, but iteration was stopped before it reached that stage, and loadings in this test were used to represent a Group IV factor.

For the final oblique loadings on the four groups, three sub-tests were selected, one from each of the three main groups on the basis of Table XI and combined with test 15. The final loadings for tests Ab, E, F, and 15 are shown in Table I, page 12. Since overlap of loadings indicated the obliqueness of these factors the next step indicated was rotation to orthogonality.

C. Rotation to Orthogonality

In order to obtain the correlations between the four factors, items with high loadings on each scale were selected as a test of that factor. The subjects were scored on these sub-tests and correlations obtained between the sub-test scores. Using these correlations in lieu of actual interfactor correlations a transformation matrix was secured in the regular manner. The items in the 4 scales, the correlations and the transformation matrix are reproduced in Tables IV, V, and VI, pages 20 to 21. The transformation matrix was then used to change the factor loadings from oblique to orthogonal. Several (about 20) of the resulting communalities were above 1.00. Examination showed that in every case these were items included in defining the final sub-tests, resulting in the upward contamination of their factor loadings. This contamination ($r_{contamination}\sqrt{1/n}$) was removed, and the transformation matrix reapplied. This reduced all except 6 items to a communality of less than 1.00. For these remaining items, a proportional increment was used across the loadings to reduce the communalities to unity.

D. Rotation for Meaningfulness.

After orthogonality and communalities of unity or below were achieved, the four factors were rotated for meaningfulness.

The large number of items made complete plotting infeasible since the dots couldn't be labeled and soon. This necessitated selecting only the highest positive and negative combinations (about 50 at one time) for plotting, and the securing of actual rotated loadings mathematically for the bulk of items at each trial. This greatly slowed up the rotation process. When 4 meaningful factors with clearly marked axes emerged the rotation was terminated and checked. The final rotated, orthogonal, and meaningful loadings are reported in Table I.

The 10 items with the highest loadings on each factor will be used to show both the conformity to simple structure and to identify the factors (actually all loadings contributed to the naming). The factor plots for the 10 most highly loaded items in each factor are presented in Figures 1 through 6, page 22 through 27.

3. Names of the Four Factors.

Factor I had its highest loadings on the following 10 items:

.90	280.	No attempt to help others (R)
.86	155.	Lacking in sincerity (R)
.82	207.	Does not secure loyality of subordinates (R)
.80	171.	Feels mistreated
.80	107.	Hated by subordinates (R)
.79	139.	Harbors grudges (R)
.78	130.	Not cooperative (R)
.73	153.	Caustic in remarks (R)
.78	204.	Cannot apply knowledge (R)
.78	257.	Selfish in motives (R)

Reduced to a description, we have an officer who:

"Is sincere, helpful, cooperative, satisfied and engenders liking and respect."

This factor seems best described as Proper Attitude Toward the Job.

Factor II had its highest loadings on the following ten items:

Loadings		Items
.92	42.	Establishes cordial relations
.91	100.	Well liked by fellow officers
.82	263.	Knows his subordinates
.78	19.	Affable and genial
.76	50.	Makes duty assignments according to ability
.75	53.	Gets along well with subordinates ans superiors
.75	68.	Pleasing personality
.75	70.	Has vitality
.74	16.	Assigns men properly.
.72	20.	Physical endurance.

These items seem to describe an officer who:

"Is genial, cordial, and well liked by both subordinates, fellow officers, and superiors, and who handles his relationships with them in a satisfactory manner."

This factor is therefore identified as Successful interpersonal relationships.

Factor III has its highest ten loadings on the following items:

.72	182.	Makes bold and quick decisions
.68	119.	Lacks Ability (R)
.68	238.	Has little force (R)
.65	177.	Fails to exercise initiative (R)
.64	255.	Forceful
.63	93.	Good leader
.62	60.	Needs to assert himself (R)

.61	29.	Physically unimpressive (R)
-.60	225.	Quiet
.60	249.	Timid (R)

Boiled down to a thumbnail description the items say such an officer

"Is bold, forceful, and quick to lead or take the initiative. Never quiet, timid, or afraid to assert himself."

This factor is therefore identified as Forceful leadership and Initiative.

The 10 highest loadings on Factor IV were

Loadings		Items
.79	12.	Does not know his job (R)
.76	260.	Competent
.75	241.	Persevering
.74	239.	Mentally alert
.73	201.	Makes little progress toward objectives (R)
.73	284.	Criticizes superiors in front of junior officers (R)
.70	281.	Not well informed concerning his duties (R)
.69	155.	Ignorant (R)
.69	199.	Shirks responsibility (R)
.66	65.	Seeks easiest assignments (R)

These items clearly depict an officer who "Is competent, alert, informed, and persevering. One who gets things done and likes to do them."

This factor is therefore identified as "Job Competence and Performance."

F. A Verification of the Sufficiency of the Four Factors.

Still feeling that four factors were quite few to describe almost 300 items, and since the original thirteen sub-tests picked by the staff had "appeared" to be different, it seemed wise to run a factor analysis of the scores on the 13 selected original sub-tests. This factor analysis also had methodological implications in that results should be the same as those achieved by the iterative process if both methods were interchangeable.

Table VII, page 28 shows the intercorrelation among the 13 original sub-tests before iteration. A group factor analysis yielded 4 factors. Rotated first to orthogonality and then for meaningfulness, the loadings are those shown in Table VIII, page 29 with residuals shown in Table VII.

Factor I had its highest loadings on

Loadings		Sub-Test
.69	12.	Relation to Superiors
.58	2.	Attitude toward work
.54	8.	Morality
.39	1.	Ability
.35	10.	Performance

This factor is quite easily identified as being the same as Factor I from the iteration process, namely Proper Attitude Toward the Job.

Factor II had its highest loadings on

Loadings	Sub-test
.61	11. Relation to Subordinates
.60	3. Efficient use of Subordinates
.58	7. Military appearance
.57	13. Sociability
.44	9. Originality
.41	8. Morality

Again the factor is clearly identifiable as the Factor II from the iterative process, namely Successful Interpersonal Relationships.

Factor III had its highest loadings on

Loadings	Sub-tests
.66	7. Military appearance
.57	1. Ability
.43	4. Force
.39	6. Knowledge of Profession
.38	9. Originality
.38	5. General Cultural Level
.38	3. Efficient Use of Subordinates
.35	10. Performance

Inspection of both the topics and items contained in Factor III from the iterative process (the 10 highest items came from sub-tests 1, 4, 7, 9, 10, 11 and 13) indicate the identity of this factor with that one. It is accordingly labelled Forceful Leadership and Initiative.

Factor IV had its highest loadings on

Loadings	Sub-tests
.77	10. Performance
.75	6. Knowledge of Profession
.74	9. Originality
.67	11. Relation to subordinates
.63	2. Attitude toward work
.61	4. Force
.57	1. Ability

Again this final factor is immediately seen to correspond to Factor IV on the iterative process, namely, Job Competence and Performance.

This finding clearly points out that such initial groupings, factor analyzed, and regrouped according to factors, rather than by topics, would form better initial breakdowns for starting the iterative procedure, and lead to further time saving in that process. For example, in this case, the four factor divisions of sub-tests would have cut the iterative sequences from 13 to 4, and would have lead more quickly and with equal accuracy to the same end result.

CHAPTER III
RELATION OF THE FOUR FACTORS TO VALIDITY AND OTHER RATING FORMS

In addition to the item data, additional information was furnished for 13 other variables. These included

1. Job Qualifications, Forced choice, 67-1
2. " " , Scale, Rater, 67-1
3. " , " , Indorser, 67-1
4. Personal Qualifications, Forced choice, 67-1
5. " " , Scale, Rater, 67-1
6. " " , " , Indorser, 67-1
7. Overall Scoring, 67-1
8. Average of All 67-1's to Date.
9. Overall score on Item Check List (Q.C.L.)
10. Grade
11. Criterion No. 1. Friendship
12. " No. 2. Value to Army
13. " No. 3. Value on Present Job.

Four sub-test scores to represent the final rotated factors from the iterative process were secured for comparison with the above. These were

14. Factor I Proper Attitude Toward the Job
15. Factor II Successful Interpersonal Relations
16. Factor III Forceful Leadership and Initiative
17. Factor IV Job Competence and Performance

The intercorrelations using these 17 variables were computed and are presented in Table IX, page 30 along with the residuals resulting from the factor analysis.

The factor analysis, modified group centroid, yielded 8 sets of factor loadings, which made orthogonal and rotated for meaningfulness are reported in Table X, page 31.

Factor A had the following significant loadings

Loadings	Variables
.94	12. Criterion II. Value to the Army
.87	13. Criterion III. Value on Present Job
.72	11. Criterion I. Friendship
.48	8. Average of all 67-1's
.40	2. Job Qualifications, Scale, Rater, 67-1
.33	3. " " , " , Indorser, 67-1
.32	7. Overall Score in 67-1
.31	4. Personal Qualification, Forced choice, 67-1
.28	6. " " , Scale, Indorser, 67-1
.24	5. " " , " , Rater, 67-1
.21	14. Proper Attitude toward the Job (Factor I)

This factor can obviously be identified as Criterion or Criterion-Scale Overlap. None of the ratings or part ratings is highly loaded. It is perhaps interesting to note that the average of several 67-1's (8, .48) has a higher loading than a single 67-1 even though the latter is more contemporaneous (7, .32). Of the four Check List Factors only "Attitude toward the Job"

(14, .21) is at all related and then only minimally. It would appear that either the forced-choice or the following position in group scales following these sections are more valid than are check-list scales according to this criterion. The generally low validity factor projections are discouraging.

Factor B has the following significant loadings:

Loadings	Variables
.72	17. Factor IV. Job Competence and Performance
.45	2. Job Qualifications, Scale, Rater, 67-1
.35	3. " " , " , Indorser, 67-1
.26	16. Factor III, Forceful Leadership and Initiative

This factor is identified as Job Position Scale - Check List Overlap.

Factor C has the following significant loadings

Loadings	Variables
.60	17. Factor IV. Job Competence and Performance
.29	15. Factor II. Successful Interpersonal Relationship
.28	9. Overall Rating following CCL
.21	1. Job Qualification, Force choice, 67-1
.20	16. Factor III. Forceful Leadership and Initiative

It is identified as Job Forced choice - Check List Overlap. These two factors together, representing considerable overlap between both forced choice and scale job evaluation on the 67-1 with the check-list job items, perhaps point to some adequate job performance-job knowledge criterion apart from "buddy ratings" as an added basis for improving the claimed validity of the 67-1. For those job elements in the 67-1 the loadings are higher than were those on the criterion factor A in all three cases.

Factor D has its significant loadings on

Loadings	Variables
.89	6. Personal Qualification, Scale Indorser, 67-1
.86	7. Overall Scoring, 67-1
.84	5. Personal Qualification, Scale, Rater, 67-1
.74	2. Job Qualifications, Scale, Rater, 67-1
.70	3. " " , " , Indorser, 67-1
.56	8. Average of all 67-1's to date
.32	1. Job Qualification, Forced choice, 67-1
.30	4. Personal Qualification, Forced choice, 67-1
.43	9. Overall score on scale after CCL

This factor apparently reflects the private opinion of the 67-1 rater as reflected by his bias or halo on all scales. Loadings on 8 (average of all 67-1's) may reflect contamination by present scale and on 9 (Scale on CCL) may reflect rater sample contamination or overlap. Loadings on 1 and 4 (the forced-choice scales) may come from choice of high or low items as most or least descriptive). The factor is therefore identified as 67-1 Scales Overlap.

Factor E has the following significant loadings

Loadings	Variables
.78	1. Job Qualification, Forced choice, 67-1
.64	4. Personal Qualification, Forced choice, 67-1
.37	8. Average of all 67-1's to Date
.33	7. Overall on Current 67-1

This factor is therefore identified as a 67-1 Forced Choice Overlap. The fact that then the loading on 8 is much higher or equal to that on 7, whereas in Factor D the loading for 7 was much greater, may indicate a relative freedom from bias for those scales. If 8 be regarded as a slightly different criterion from 11-12-13 - single raters on several jobs as contrasted with many raters on the same job - this factor might then be construed as indicating an increment to validity.

Factor F has its significant loadings on

Loadings	Variables
.34	10. Grade
.32	15. Factor II. Successful Interpersonal Relationships
.30	8. Average of all 67-1's to Date
.22	5. Job Qualifications, Scale, Indorser, 67-1
.20	2. " " , " , Rater, 67-1

This factor is identified as Influence of Grade on Ratings. It seems to be related only to Factor II (Successful Interpersonal Relations) among the check-list factors, and only to Job Qualification scales on the 67-1. While not appearing significantly on a single 67-1 (7) it appears to become important in an accumulation of such report

Factor G has significant loadings on

Loadings	Variables
.79	9. Overall following QOL
.75	15. Factor II. Successful Interpersonal Relationships
.39	14. Factor I. Proper Attitude toward the Job
.27	16. Factor III. Forceful Leadership and Initiative

This factor is identified as QOL Overall-Item Overlap. While apparently again representing the opinion of a single rater it is surprising to find job items not influencing this bias at all, with "Factor II, Successful Interpersonal Relationships" almost completely dominating.

Factor H has significant loadings on

Loadings	Variables
.80	16. Factor II. Forceful Leadership and Initiative
.58	14. Factor I. Proper Attitude toward the Job
.23	17. Factor IV. Job Competence and Performance.

This factor is therefore identified as Check-List Scales Overlap. It probably represents the prevalence of ambiguous items with consequent overlap between the scales on factors having little to do with either overall judgments or criterion measures available in this study.

CHAPTER IV
SUMMARY AND CONCLUSIONS

1. The approximately 300 items on the check list (QCL) are largely explained by four factors

   I. Proper Attitude toward the Job
   II. Successful Interpersonal Relationships
   III. Forceful Leadership and Initiative
   IV. Job Competence Performance

2. The above factors were obtained both by a Thorry-Taylord iterative approach and by an ordinary group centroid analysis of the 13 "face-valid" groups into which the items were classified by a group of "experts." Apparently this latter approach could be used to reduce the iterations in the Thorry-Taylord approach and to insure less overlap and rotation after the iterations.

3. Only Factor I, Proper Attitude toward the Job, items are related to the Group Rating Criteria (variables 11, 12, 13) and that factor with a loading of only .21 on Factor A which they identify

4. Best predictor of Factor A, Criterion-Scale Overlap, was the average of all 67-1's to date with a loading of .48.

5. Both the Forced choice and 10 point scales by rater and indorser on job qualification were independently related (Factors B and C) to Factor IV, Job Competence and Performance.

6. Factor IV. Job Competence and Performance check list items were the only group not related to the overall rating following the QCL (Variable 9) and hence seem not to enter into rater bias (See Factor G).

7. The last two findings taken together suggest that an independent objective criterion of job performance and knowledge to add to the present buddy ratings obtained might add appreciably to the present reported validity of the 67-1 with proper, perhaps, increased weighting of the job qualification sections.

8. The Forced Choice Scales (Factor E) are more highly related to Average 67-1 Score (8) while the Scales by Rater and Indorser (Factor C) are more highly related to the current 67-1 evaluation. If Average 67-1 (a single rater on several jobs) is contrasted with the Nomination Scales (11, 12, and 13 representing several raters on a single job) and thus considered as a third criterion, this can be construed as evidence of less bias and an extra contribution to validity on the part of the forced choice scales.

PROCEDURAL APPENDIX

Iteration

As noted in Chapter II, all 292 items were divided into groups by visual inspection. Each of these groups in turn was used as a scoring key. All papers were scored on the particular key. On the basis of this scoring, the papers were divided into an upper and s lower group. Since total N equaled 231, papers were sorted on total test score so that the upper half equalled 116. The number in each half marked "0" and "1" responses for each group was then determined. The absolute number was then converted to a percentage using a converstion table based on N = 115. Even though use of this table resulted in a slight error for the lower half, it was felt that this error was insignificant. Tetrachoric item-test correlation coefficients were then read off from the Mosier-McQuitty abac.

Items with high item-test coefficients were selected to form a new scoring ey. An attempt was made to find a natural "break" in the distribution of coefficients in the general neighborhood of .70. All items with correlations above this point were included in the new scoring key, and 231 papers rescored.

This procedure was repeated until further repetition madeno change in the scoring key.

Rotation

Since correlations between factors were not available, correlations between the separate scales were used in securing a transformation matrix for rotation to orthogonality. The Brogden-Wherry-Taylor-Gaylord procedure was used. By means of this matrix factor loadings were obtained for approximately 60 items. These factors were then rotated to more meaningful positions, and the rotations superimposed on the original transformation matrix.

The corrected transformation matrix was then applied to the original oblique loadings to obtain rotated orthogonal loadings for all 289 items. It was found that these needed further rotation. These further rotations were likewise superimposed on the original transformation matrix, since it was felt that this procedure minimized the possibility of error.

Note: In submitting this report it is understood that all provisions of the contract between The Foundation and the Cooperator and pertaining to publicity of subject matter will be rigidly observed.

Supervisor . . . . . Date February 23, 1950

Robert J. Wherry

For The Ohio State University Research Foundation

Executive Director . James S. Owens Date 2-23-50

James S. Owen

Table I: Item Dichotomization and Factor Loadings

Item Number	Point of Cut		Oblique Factor Loadings Ab	E	F	15	Orthogonal Rotated Loadings I	II	III	IV
1	3-4*		10	70	48	32	03	73	-04	16
2	1-2	R**	62	30	58	50	62	-02	09	49
3	1-2	R	59	31	49	30	43	08	39	16
4	1-2	R	49	21	42	46	54	-01	01	31
5	1-2	R	54	15	46	75	66	-16	-12	51[a]
6	1-2	R	33	16	22	69	60	16	-34	-03
7	1-2	R	69	27	39	49	59	17	39	-27
8	1-2	R	70	39	65	42	57	05	33	40
9	1-2	R	64	32	53	56	64	09	12	24
10	1-2	R	60	25	54	22	43	-10	39	43
11	1-2	R	75	31	67	50	69	-10	22	57
12	1-2	R	78	41	78	56	60	-06	-03	79[a]
13	4-5		35	48	49	42	33	37	02	24
14	4-5		42	46	58	15	21	19	35	44
15	3-4		41	63	57	65	45	58	-09	15
16	3-4		48	84	73	38	23	74	39	13
17	3-4		22	42	39	52	34	38	-27	24
18	3-4		51	80	80	20	16	56	54	38
19	3-4		14	56	23	23	-02	76	27	-54
20	3-4		10	61	33	05	-16	72	36	-24
21	3-4		19	40	36	30	18	35	-03	19
22	4-5		40	60	58	36	27	47	21	22
23	4-5		28	28	40	51	44	12	-30	47
24	3-4		53	72	82	30	29	40	36	61
25	3-4		20	62	51	30	11	56	05	26
26	2-3	R	36	24	45	45	47	-02	-19	58
27	1-2	R	71	37	68	65	75	01	02	57
28	3-4	R	23	51	45	20	10	43	17	20
29	1-2	R	50	25	34	08	23	11	61	-14
30	1-2	R	51	38	59	58	59	10	-11	56
31	3-4		44	79	73	36	23	64	35	30
32	1-2	R	69	50	77	39	52	10	34	62
33	3-4		20	50	39	26	11	49	10	07
34	3-4		48	80	83	26	20	52	38	56
35	1-2	R	51	24	42	32	43	03	24	19
36	1-2	R	53	18	38	55	62	00	-02	17
37	1-2	R	57	23	49	50	61	-05	04	39
38	1-2	R	57	17	26	65	67	13	02	-22
39	1-2	R	48	20	43	33	45	-06	13	36
40	1-2	R	61	40	55	53	57	20	17	19
41	3-4		33	80	67	37	17	71	18	25
42	3-4		20	77	44	31	01	92	20	-31

* Responses 1, 2, and 3 were given a score of 0; responses 4 and 5, a score of 1.

** "R" indicates "reflected." Responses 2, 3, 4, and 5 were given a score of 0; response 1, a score of 1.

a These loadings were adjusted to reduce the communalities below 1.00.

	Point of Cut		Oblique Factor Loadings Ab	E	F	15	Orthogonal Rotated Loadings I	II	III	IV
43	3-4		33	85	69	29	09	77	31	21
44	3-4		27	64	56	00	-06	50	49	23
45	3-4		27	38	47	37	31	19	-12	51
46	3-4		32	73	60	27	11	66	29	14
47	3-4		34	80	71	41	21	67	11	39
48	1-2	R	31	-02	19	60	61	-15	-44	29
49	1-2	R	44	16	30	37	44	03	11	05
50	3-4		28	77	57	23	03	76	35	02
51	3-4		28	76	63	20	04	67	30	25
52	3-4		27	67	50	26	08	67	26	-01
53	3-4		33	82	68	42	19	75	13	25
54	3-4		31	85	74	16	01	69	37	40
55	3-4		31	67	54	42	22	65	09	09
56	3-4		29	70	53	33	13	70	21	01
57	2-3	R	34	35	29	05	07	33	54	-26
58	1-2	R	65	38	65	45	57	03	21	51
59	2-3	R	51	08	19	46	53	04	16	-29
60	1-2	R	66	47	60	24	36	23	62	09
61	1-2	R	50	18	31	18	32	04	45	-09
62	4-5		22	48	54	26	18	26	-05	62
63	1-2	R	41	11	36	19	35	-17	17	40
64	4-5		25	54	49	25	14	44	12	26
65	1-2	R	67	21	60	55	71	-21	00	66[a]
66	1-2	R	68	22	54	52	69	-11	13	41
67	3-4		20	65	55	10	-03	54	51	31
68	3-4		26	76	58	43	17	75	05	14
69	3-4		51	77	76	40	30	58	31	33
70	3-4		07	66	41	11	-14	75	22	-03
71	3-4		29	73	69	59	35	58	-25	58
72	2-3	R	22	10	15	20	22	05	06	-01
73	3-4		23	57	55	00	-04	38	36	41
74	1-2	R	60	31	61	49	61	-05	05	61
75	1-2	R	51	20	44	32	46	-07	18	35
76	1-2	R	42	23	35	36	40	09	11	12
77	3-4		10	40	40	-15	-15	22	32	42
78	1-2	R	80	36	63	39	59	03	53	21
79	1-2	R	47	19	30	48	51	10	06	-05
80	1-2	R	51	23	31	34	41	15	32	-19
81	3-4		-05	40	24	50	18	49	-54	20
82	1-2	R	79	27	64	32	60	-16	50	44
83	1-2	R	79	35	65	44	64	07	42	33
84	1-2	R	74	28	46	58	69	09	28	-03
85	1-2	R	61	30	61	61	70	-05	-09	63
86	3-4		33	46	53	05	09	22	38	40
87	3-4		49	67	68	29	25	47	40	27
88	1-2	R	61	41	60	56	60	15	09	36
89	1-2	R	85	38	61	61	75	13	39	04
90	1-2	R	69	29	58	71	66	-04	19	39[a]
91	3-4		43	79	65	22	10	71	30	00
92	3-4		39	67	68	23	17	45	53	43

	Point of Cut		Oblique Factor Loadings Ab	E	F	15	Orthogonal Rotated Loadings I	II	III	IV
93	3-4		48	87	66	20	07	68	63	-36[a]
94	3-4		51	86	84	43	30	64	29	44
95	3-4		35	69	69	18	11	46	31	49
96	3-4		49	74	78	22	20	47	45	46
97	3-4		41	78	79	11	07	50	48	55
98	3-4		33	74	63	25	10	64	31	21
99	3-4		28	81	58	21	00	60	28	22[a]
100	3-4		20	77	46	46	12	91	06	-21
101	3-4		26	56	45	04	-03	50	46	02
102	1-2	R	59	39	60	31	43	08	34	39
103	1-2	R	78	18	51	46	69	-14	36	20
104	1-2	R	76	16	59	42	70	-29	27	56
105	1-2	R	57	10	41	54	68	-18	-06	38
106	3-4		28	70	51	28	08	71	27	-05
107	1-2	R	72	21	53	66	80	-09	03	34
108	3-4		49	73	74	35	28	52	32	37
109	3-4		34	65	65	28	19	45	17	46
110	3-4		44	83	65	36	25	55	21	65
111	3-4		00	11	02	48	28	24	-49	-08
112	3-4		47	49	42	62	48	52	06	-21
113	1-2	R	69	29	39	50	58	21	-40	-31
114	1-2	R	68	07	50	40	67	-35	17	55
115	2-3	R	02	-11	-02	50	41	-11	-64	20
116	1-2	R	37	-02	21	74	74	-15	-53	28
117	1-2	R	65	45	79	60	76	03	27	55
118	3-4		16	45	32	22	07	47	10	-02
119	1-2	R	95	51	80	39	54	24	68	03[a]
120	1-2	R	71	26	52	20	45	-05	63	15
121	3-4		18	37	41	30	21	22	-14	45
122	3-4		36	63	74	50	39	33	-18	83
123	4-5		32	60	60	50	34	45	-12	45
124	3-4		53	86	85	26	20	61	51	42
125	3-4		36	73	58	26	11	69	39	00
126	3-4		28	84	70	20	02	72	31	34
127	3-4		34	83	68	26	08	74	35	19
128	1-2	R	71	26	51	61	73	01	14	18
129	1-2	R	83	37	67	45	65	01	47	29
130	1-2	R	80	38	63	67	78	10	21	21
131	1-2	R	51	11	34	70	74	-06	-26	23
132	1-2	R	65	24	60	80	74	-15	-06	65[a]
133	1-2	R	65	21	40	55	68	-05	10	27
134	3-4		02	54	29	-19	-33	60	49	-14
135	omitted									
136	4-5		50	63	60	25	22	50	51	04
137	1-2	R	76	26	66	66	60	46	14	12[a]
138	3-4		33	62	64	24	17	41	19	50
139	1-2	R	73	30	49	74	79	14	08	00
140	1-2	R	85	41	78	52	64	09	28	36[a]
141	3-4		39	46	54	23	24	24	24	36
142	3-4		23	49	34	-05	-10	49	56	-19

	Point of Cut		Oblique Factor Loadings Ab	E	F	15	Orthogonal Rotated Loadings I	II	III	IV
143	1-2	R	67	28	55	36	54	-04	35	31
144	1-2	R	52	24	28	84	74	27	22	-25
145	1-2	R	68	39	63	28	46	05	49	34
146	1-2	R	86	30	76	56	73	-08	15	50[a]
147	1-2	R	66	31	54	37	52	03	37	23
148	1-2	R	71	26	67	63	59	-16	-19	75[a]
149	1-2	R	58	07	25	66	73	-02	-04	-14
150	1-2	R	84	35	69	54	74	-04	34	40
151	3-4		29	66	67	-05	-06	40	48	55
152	1-2	R	57	06	41	65	78	-24	-23	48
153	1-2	R	35	-05	15	75	73	-13	-54	16
154	3-4		41	63	67	18	16	39	37	44
155	1-2	R	71	02	43	68	86	-30	-10	39[a]
156	1-2	R	77	24	65	45	70	-21	26	60
157	3-4		49	83	88	27	22	52	37	66
158	3-4		40	56	53	29	22	45	30	11
159	3-4		32	86	79	16	03	65	35	55
160	1-2	R	84	51	83	62	76	09	25	59
161	1-2	R	77	23	60	38	64	-17	39	42
162				omitted						
163				omitted						
164	1-2	R	65	40	47	46	51	30	41	-18
165	1-2	R	74	15	70	50	61	-26	-05	69[a]
166	1-2	R	79	41	70	55	70	06	29	40
167	1-2	R	84	29	68	51	75	-13	32	49
168	2-3		50	-06	22	48	63	-25	-01	13
169	3-4		24	47	50	00	00	27	33	42
170	3-4		22	39	28	54	33	46	-20	-09
171	1-2	R	83	31	52	69	80	13	28	-09
172	4-5		43	67	65	46	33	53	12	29
173	2-3		-21	11	06	01	-11	10	-31	38
174	4-5		38	67	61	45	29	57	10	23
175	4-5		26	50	51	36	25	36	-05	42
176	1-2	R	71	31	64	56	71	-06	11	54
177	1-2	R	83	31	58	33	58	00	65	07
178	1-2	R	74	18	55	55	76	-18	14	43
179	1-2	R	78	27	75	74	70	-14	03	67[a]
180	3-4		20	64	50	09	-05	58	32	15
181	3-4		43	81	68	48	28	75	21	11
182	3-4		41	80	70	01	-04	64	72	16
183	3-4		26	37	41	40	31	25	-12	33
184	3-4		08	50	30	05	-11	56	25	-08
185	3-4		45	66	63	34	26	53	32	19
186	3-4		38	86	62	46	26	68	15	12[a]
187	1-2	R	86	47	76	53	70	10	43	37
188	3-4		39	67	65	25	17	50	32	33
189	1-2	R	76	30	62	82	72	-06	-06	62[a]
190	1-2	R	70	28	47	36	52	07	49	-03
191	1-2	R	85	45	76	61	76	07	30	44
192	3-4		27	84	70	01	-12	70	-53	32

	Point of Cut		Oblique Factor Loadings Ab	E	F	15	Orthogonal Rotated Loadings I	II	III	IV
193	3-4		48	84	78	20	12	65	56	28
194	2-3		-28	11	05	-41	-43	04	04	37
195	1-2	R	55	25	49	59	65	00	-08	40
196	3-4		53	78	77	30	24	58	47	30
197	3-4		36	83	77	20	08	63	36	47
198	3-4		19	43	48	12	08	23	09	54
199	1-2	R	78	25	65	65	69	-16	-13	69[a]
200	1-2	R	89	24	66	62	76	-19	05	61[a]
201	1-2	R	89	21	86	61	62	-26	-03	73[a]
202	1-2	R	87	45	84	58	65	22	32	10[a]
203	1-2	R	85	34	74	48	64	01	30	35[a]
204	1-2	R	89	29	80	59	78	-14	11	62[a]
205	1-2	R	70	30	52	70	78	08	05	16
206	1-2	R	79	42	57	56	65	24	43	-09
207	1-2	R	79	26	57	67	82	-04	14	26
208	1-2	R	67	25	55	86	77	-05	-04	42[a]
209	3-4		30	49	47	25	18	38	18	20
210	3-4		21	76	64	-05	-16	61	49	37
211	3-4		10	56	35	-02	-17	60	38	-07
212	3-4		29	77	71	16	04	58	30	50
213	3-4		07	57	32	10	-11	66	23	-13
214	3-4		13	50	50	47	27	37	-39	62
215	3-4		28	72	77	04	00	39	31	82
216	3-4		46	82	82	35	24	58	28	53
217	3-4		37	54	55	20	17	38	32	26
218	4-5		37	53	64	29	27	26	11	62
219	3-4		33	60	57	21	13	46	28	28
220	3-4		40	54	62	38	33	32	08	49
221	1-2	R	72	35	67	48	65	-03	24	53
222	1-2	R	80	41	78	54	63	08	17	45[a]
223	1-2	R	87	39	77	65	75	09	14	35[a]
224	3-4		26	68	56	08	-03	59	42	18
225	3-4		-07	09	15	54	21	01	-60	53[a]
226	1-2	R	75	24	62	25	54	-20	51	49
227	1-2	R	69	36	68	27	49	-06	44	57
228	1-2	R	78	17	55	44	70	-21	33	36
229	3-4		14	28	28	31	21	22	-16	24
230	3-4		15	72	49	52	18	79	-18	10
231	3-4		20	73	52	51	20	78	-11	10
232	4-5		20	48	50	35	22	32	-15	52
233	3-4		18	71	52	28	04	71	12	14
234	1-2	R	87	35	72	51	74	-07	39	46
235	3-4		40	70	67	66	45	58	-15	39
236	1-2	R	77	33	59	41	60	03	47	18
237	1-2	R	68	15	47	64	78	-13	-01	32
238	1-2	R	74	20	48	59	75	-05	19	14
239	4-5		42	64	76	29	27	31	17	74
240	3-4		28	57	56	30	19	42	07	41
241	3-4		26	76	76	15	04	49	20	75
242	3-4		49	86	84	35	24	63	35	46

	Point of Cut		Oblique Factor Loadings Ab	E	F	15	Orthogonal Rotated Loadings I	II	III	IV
243	3-4		23	66	47	20	02	68	30	-04
244	1-2	R	82	36	74	60	79	-07	19	61
245	3-4		24	57	56	15	07	39	19	45
246	3-4		09	49	39	-25	-28	39	53	20
247	3-4		07	51	46	36	16	41	-32	55
248	3-4		17	54	39	35	14	57	-02	05
249	1-2	R	65	21	36	24	42	06	60	-22
250	1-2	R	83	33	65	26	54	-06	68	27
251	1-2	R	76	27	63	25	54	-18	54	45
252	3-4		13	63	40	40	11	72	-06	-02
253	3-4		11	72	35	34	06	71	00	-12[a]
254	3-4		09	38	35	00	-06	26	16	32
255	3-4		36	69	72	26	18	44	20	59
256	2-3	R	36	30	30	64	52	31	-20	-06
257	1-2	R	76	30	56	64	77	01	15	26
258	1-2	R	85	36	59	57	72	11	44	01
259	4-5		49	63	75	36	35	32	20	62
260	4-5		41	69	84	26	27	22	16	76[a]
261	3-4		27	59	50	-08	-11	48	60	10
262	1-2	R	67	30	54	62	71	05	07	29
263	3-4		37	81	60	30	10	82	42	-10
264	3-4		40	82	79	36	22	61	20	52
265	3-4		23	70	64	-20	-22	48	64	43
266	3-4		20	51	39	24	09	50	14	04
267	1-2	R	43	17	38	67	67	-02	-34	39
268	1-2	R	62	03	39	30	57	-30	27	33
269	3-4		21	48	47	05	01	32	27	35
270	1-2	R	88	35	63	61	78	06	38	13
271	1-2	R	83	43	66	35	55	12	67	12
272	3-4		14	42	42	22	12	28	-06	44
273	3-4		26	65	42	50	22	76	03	-20
274	3-4		29	70	56	06	-03	63	49	08
275	3-4		39	75	70	04	00	55	60	31
276	3-4		28	82	70	30	10	70	18	40
277	1-2	R	74	29	55	40	59	00	43	17
278	3-4		09	46	36	06	-06	41	15	20
279	3-4		22	52	49	26	14	40	05	36
280	1-2	R	84	33	63	79	90	04	08	27
281	1-2	R	85	37	86	61	70	-07	04	70[a]
282	1-2	R	70	37	67	34	53	-02	39	50
283	1-2	R	79	19	63	75	69	-19	-22	66[a]
284	1-2	R	58	21	58	72	65	-19	-08	73[a]
285	2-3		-21	-09	-22	06	-07	09	-27	-24
286	1-2	R	88	41	72	50	70	04	48	31
287	3-4		29	73	64	41	21	63	03	36
288	3-4		-05	67	33	01	-28	80	23	-11
289	3-4		-02	47	28	00	-17	50	14	07
290	1-2	R	79	28	56	50	69	-01	37	16
291	1-2	R	83	41	64	64	75	15	32	13
292	3-4		20	74	58	17	-02	68	25	24

Table II
Coding of Criterion Variables

	Coded Scores									
	0	1	2	3	4	5	6	7	8	9
Job Performance; Forced Choice	20/ /23	24/ /27	28/ /31	32/ /35	36/ /39	40/ /43	44/ /47	48/ /51	52/ /55	
Job Performance; Graphic-Rater	1	2	3	4	5	6	7	8	9	0
Job Performance; Graphic-Indorser	1	2	3	4	5	6	7	8	9	0
Personal Qual.; Forced Choice	20/ /23	24/ /27	28/ /31	32/ /35	36/ /39	40/ /43	44/ /47	48/ /51	52/ /55	
Personal Qual.; Graphic-Rater	36/ /39	32/ /35	28/ /31	24/ /27	20/ /23	16/ /19	12/ /15	08/ /11	04/ /07	00/ /03
Personal Qual.; Graphic-Indorser	36/ /39	32/ /35	28/ /31	24/ /27	20/ /23	16/ /19	12/ /15	08/ /11	04/ /07	00/ /03
Total 67-1	300/ /360	361/ /420	421/ /480	481/ /540	541/ /600	601/ /660	661/ /720	721/ /780	781/ /840	841/ /900
Average 67-1	300/ /360	361/ /420	421/ /480	481/ /540	541/ /600	601/ /660	661/ /720	721/ /780	781/ /840	841/ /900
Overall Evaluation OCL-2B	0/ /1	2/ /3	4/ /5	6/ /7	8/ /9	10/ /11	12/ /13	14/ /15	16/ /17	18/ /19
Grade			2	3	4	5	6			
Criterion Scale 1	025/ /040	041/ /056	057/ /072	073/ /088	089/ /104	105/ /120	121/ /136	137/ /152	153/ /168	169/ /184
Criterion Scale 2	025/ /040	041/ /056	057/ /072	073/ /088	089/ /104	105/ /120	121/ /136	137/ /152	153/ /168	169/ /184
Criterion Scale 3	025/ /040	041/ /056	057/ /072	073/ /088	089/ /104	105/ /120	121/ /136	137/ /152	153/ /168	169/ /184

Table III
Scoring keys for 13 "Guessed" Factors

Factor	Items
1. Ability	12, 34, 80, 82, 83, 119, 125, 141, 222, 223, 226, 227, 281, 282,
2. Attitude toward work	4, 10, 11, 24, 27, 35, 37, 40, 62, 64, 65, 66, 105, 118, 130, 138, 148, 149, 166, 170, 176, 178, 179, 185, 190, 191, 199, 218, 220, 224, 237, 238, 240, 259, 276, 280, 286, 290.
3. Efficient Use of Subordinates	9, 16, 31, 43, 45, 46, 50, 97, 92, 98, 99, 126, 206, 244, 263,
4. Force	20, 39, 49, 57, 58, 60, 70, 72, 75, 78, 79, 102, 120, 129, 135, 142, 147, 151, 159, 167, 180, 182, 188, 197, 198, 211, 213, 215, 216, 241, 243, 245, 246, 249, 250, 251, 265, 268, 272, 275, 277, 278.
5. General Cultural Level	33, 63, 146, 162, 165, 209, 217, 236, 266, 279.
6. Knowledge of Profession	13, 87, 95, 103, 104, 193, 196, 234.
7. Military Appearance	29, 36, 67, 77, 86, 134, 184, 210, 228, 254, 261, 269.
8. Morality	14, 17, 21, 22, 30, 32, 38, 74, 76, 89, 137, 155, 163, 172, 174, 175, 232.
9. Originality	2, 96, 110, 117, 143, 145, 150, 154, 157, 160, 187, 219, 229, 239, 242, 255, 258, 264, 274.
10. Performance	8, 18, 54, 69, 73, 85, 94, 108, 109, 114, 124, 140, 156, 161, 177, 200, 201, 202, 203, 204, 212, 260.
11. Relation to Subordinates	15, 28, 41, 44, 47, 51, 52, 55, 59, 61, 71, 90, 91, 93, 101, 106, 107, 111, 112, 127, 169, 183, 186, 192, 194, 205, 207, 208, 214, 256, 257, 262, 270, 271, 287, 291.
12. Relation to Superiors	7, 113, 122, 123, 158, 171, 189, 221, 283, 284,
13. Sociability	1, 3, 5, 6, 19, 23, 25, 26, 42, 48, 53, 56, 68, 81, 84, 88, 100, 115, 116, 121, 128, 131, 132, 133, 139, 144, 152, 153, 164, 168, 173, 181, 195, 225, 230, 231, 233, 235, 247, 248, 252, 253, 267, 273, 285, 288, 289, 292,

Table IV
Items included in final scoring key for oblique factors

Factor	
Ab	11, 12, 78, 82, 83, 84, 89, 103, 104, 107, 117, 119, 120, 129, 130, 137, 139, 140, 146, 148, 150, 156, 160, 161, 165, 166, 167, 171, 176, 177, 178, 179, 187, 189, 191, 199, 200, 201, 202, 203, 204, 205, 206, 207, 221, 222, 223, 226, 228, 234, 236, 238, 244, 250, 251, 257, 258, 270, 271, 277, 280, 281, 282, 283, 286, 290, 291.
E	1, 16, 18, 24, 31, 34, 41, 42, 43, 46, 47, 50, 51, 53, 54, 55, 56, 68, 69, 70, 73, 87, 91, 93, 94, 95, 96, 97, 98, 99, 100, 106, 108, 110, 124, 125, 126, 127, 151, 157, 159, 172, 174, 181, 182, 185, 186, 192, 193, 196, 197, 210, 212, 215, 216, 224, 230, 231, 233, 235, 241, 243, 255, 260, 263, 264, 265, 274, 275, 276, 287, 292.
F	11, 12, 16, 18, 24, 27, 31, 34, 41, 43, 47, 54, 69, 87, 92, 95, 96, 97, 108, 110, 117, 119, 122, 124, 129, 140, 146, 150, 151, 157, 159, 160 165, 166, 167, 172, 179, 181, 182, 187, 191, 192, 193, 196, 197, 202, 203, 204, 210, 212, 215, 216, 222, 223, 227, 234, 239, 241, 242, 244, 255, 259, 260, 264, 271, 275, 276, 281, 282, 286, 126.
15	5, 6, 15, 17, 23, 48, 81, 90, 111, 115, 116, 132, 139, 144, 153, 170, 179, 189, 205, 208, 223, 225, 231, 235, 256, 280, 284.

Table V
Intercorrelations of Iterated Factors

	Ab	At	E	F	G	K	M	Mo	O	P	Rb	Rp	S	14
Ab	-													
At	98	-												
E	43*	39	-											
F	75	72	87	-										
G	44	41	98	88	-									
K	98	99	40	72	41	-								
M	43	40	98	88	99	40	-							
Mo	42	39	98	87	99	39	98	-						
O	73	70	88	98	88	70	89	88	-					
P	98	98	39	72	40	99	39	38	70	-				
Rb	44	41	98	88	98	41	98	98	89	41	-			
Rp	98	98	44	74	44	98	44	43	72	98	45	-		
S	41	38	99	86	99	38	98	99	87	37	98	42	-	
14	76	74	80	95	81	74	81	81	95	74	81	76	74	-
15	63	-	43	51										-

* Underlined correlations were used to obtain transformation matrix

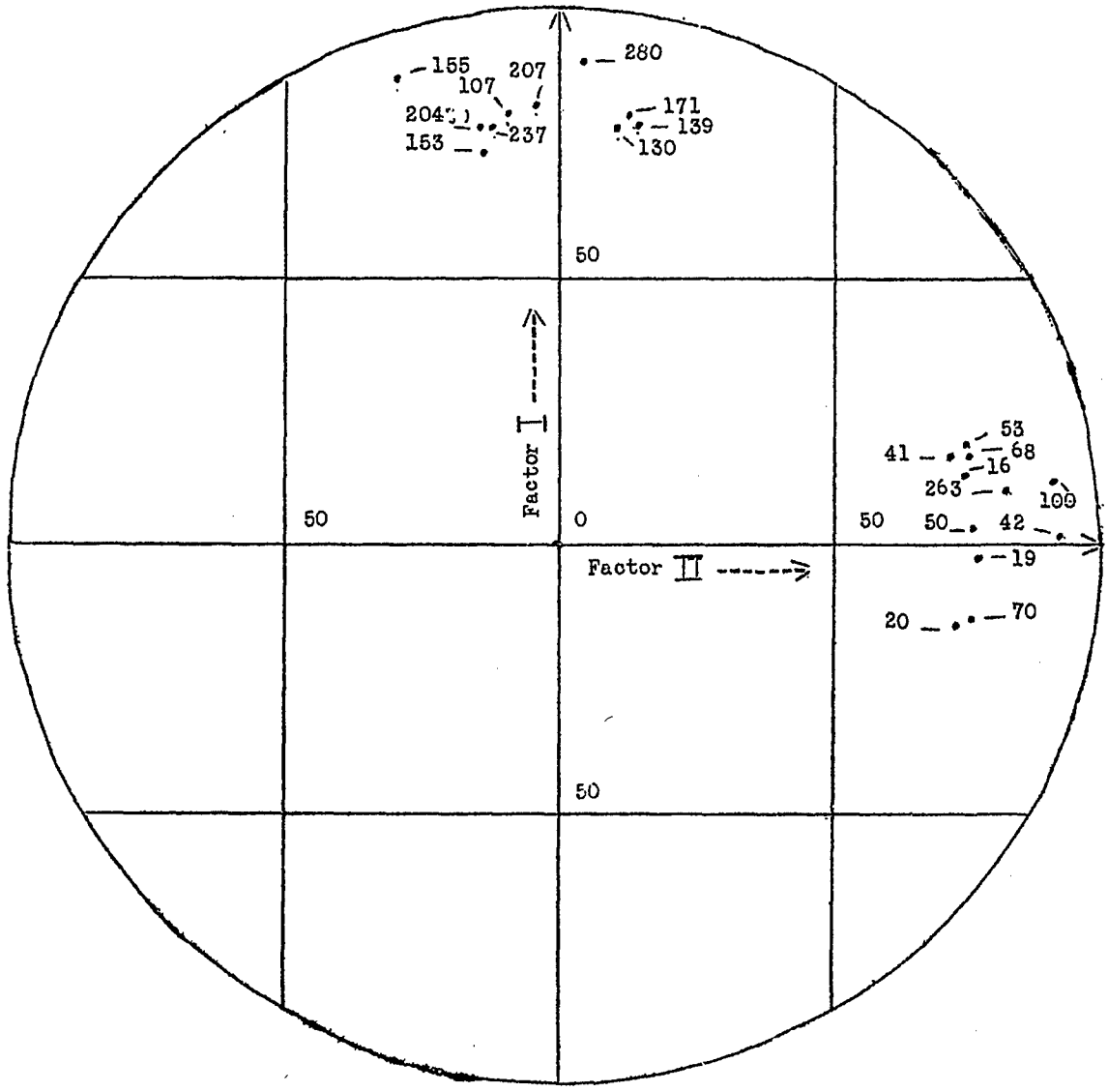
Table VI

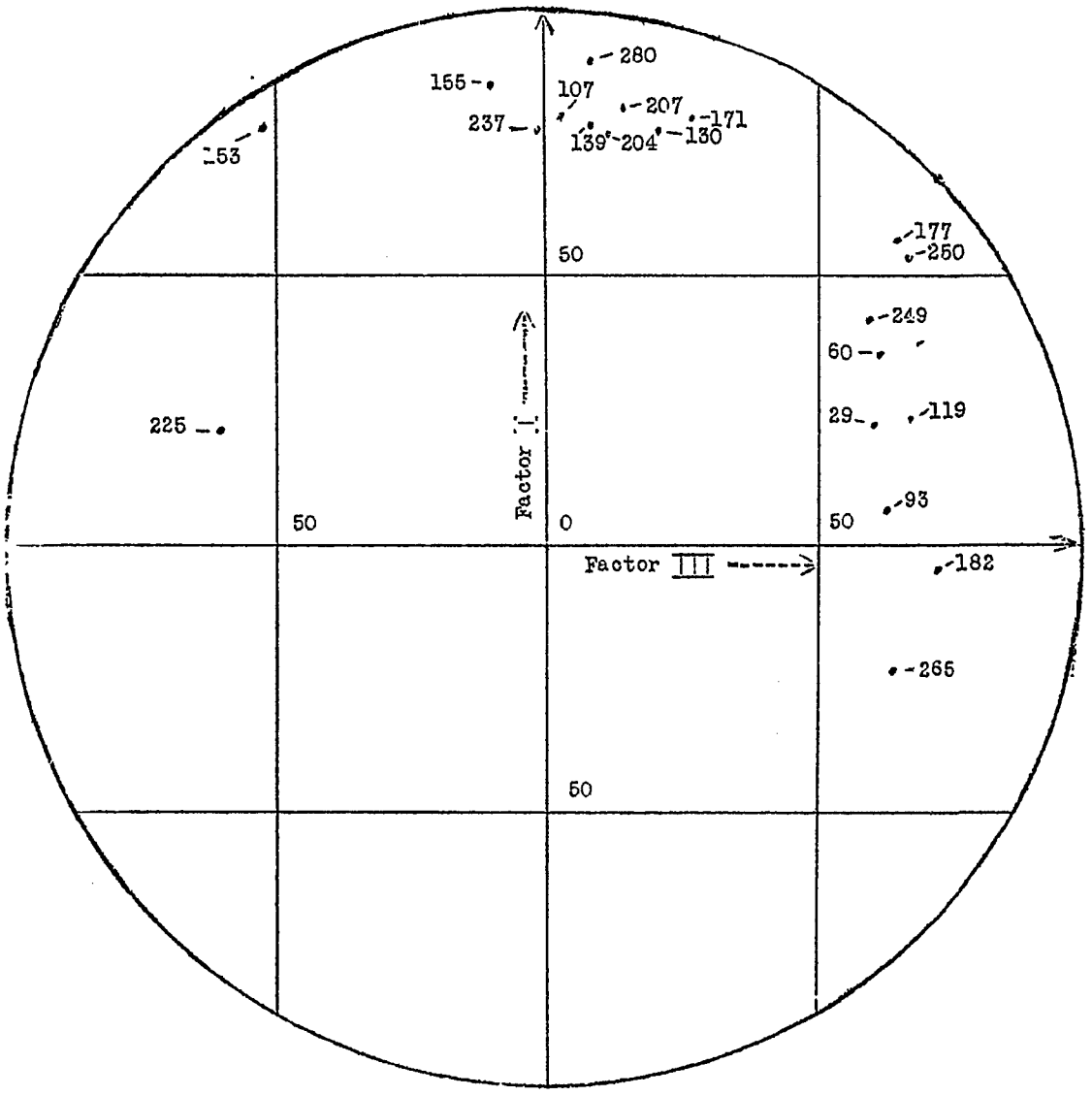
Transformation Matrix for Unrotated Orthogonal Loadings

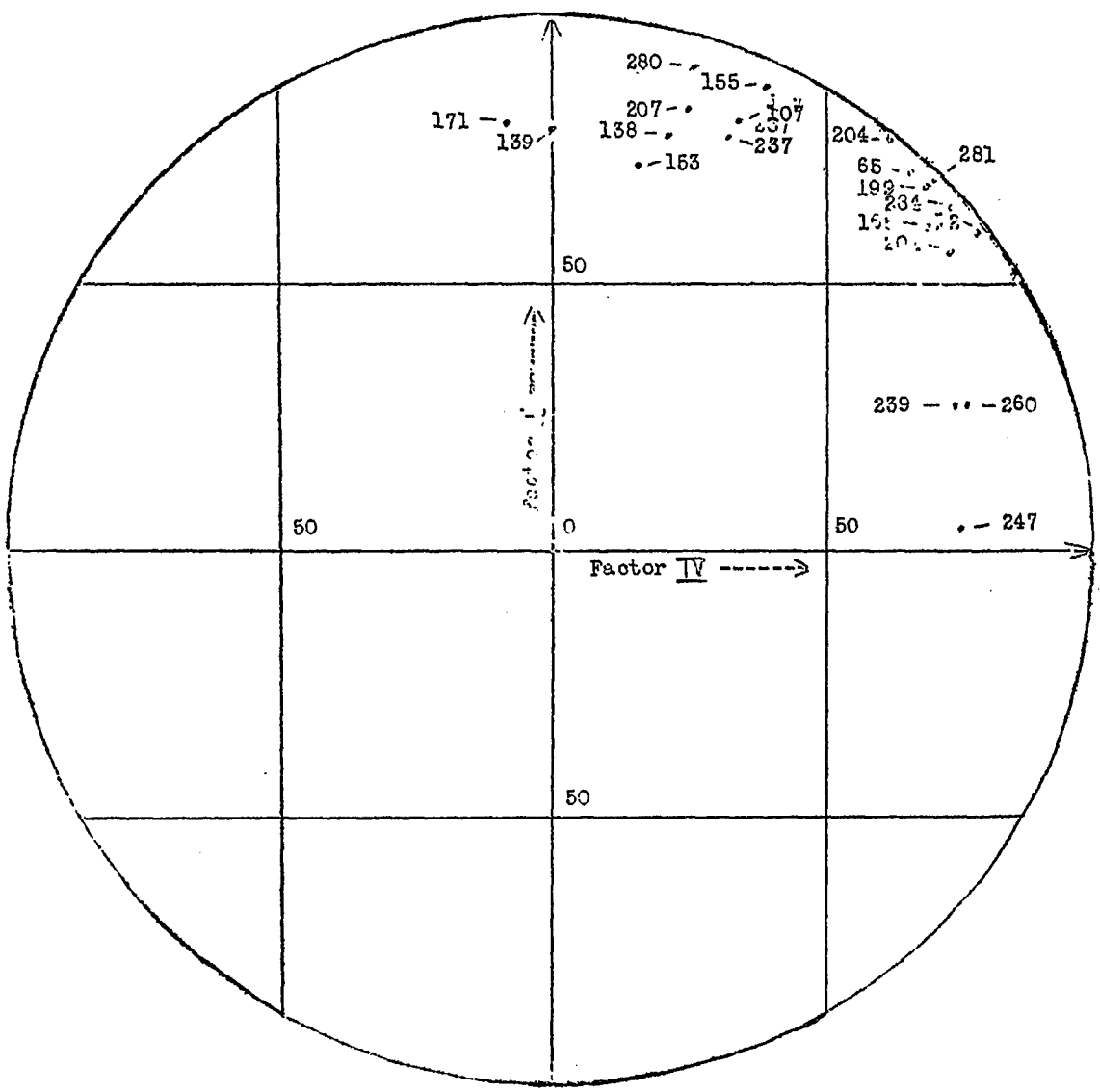
	Ab	E	F	15
Ab'	1.00	.00	.00	.00
E'	- .47	1.11	.00	.00
F'	-1.64	-2.54	3.79	.00
15'	-1.41	-1.23	1.41	1.41

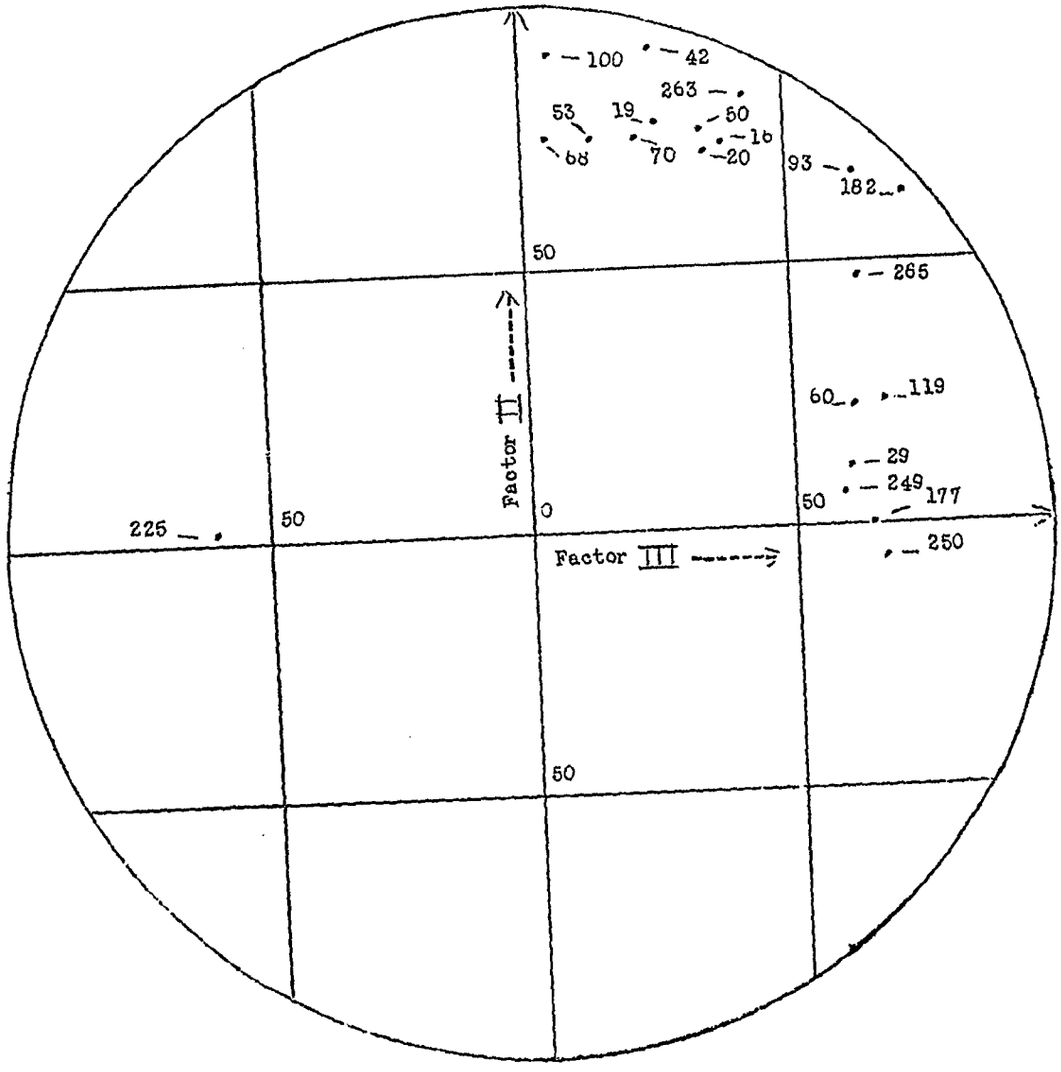
Transformation Matrix for Rotated Orthogonal Loadings

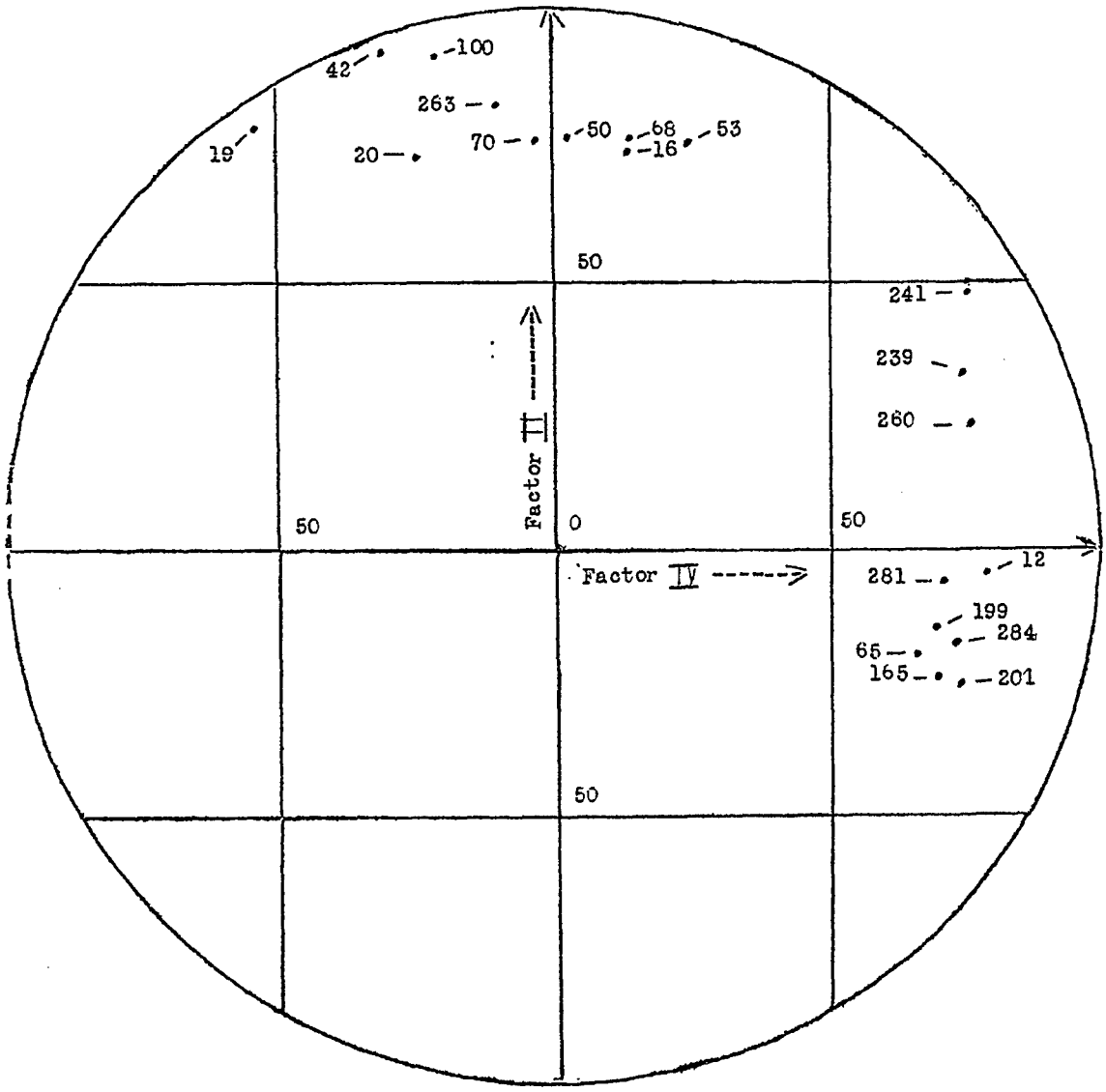
	Ab	E	F	15
I	.38	- .57	.36	.69
II	.15	1.83	-1.27	.13
III	1.64	1.01	-1.07	-1.21
IV	-1.74	-2.09	3.64	.16


155
207
107
204
237
153
280
171
139
130
50
Factor I
50
0
50
53
41
68
16
263
109
50
42
19
Factor II
20
70
50


280
155
107
207
171
237
139
204
130
153
177
250
50
249
60
225
29
119
Factor II
50
0
50
93
Factor III
182
265
50


280
155
171
139
207
138
107
237
153
204
281
65
199
234
239
260
247
50
0
50
50
Factor IV ------>


100
42
263
53
19
50
16
68
70
20
93
182
50
265
Factor II
60
119
29
249
177
225
50
0
50
Factor III
250
50


42
100
263
19
20
70
50
68
16
53
50
241
239
260
Factor II
50
0
50
Factor IV
281
12
199
284
65
165
201
50

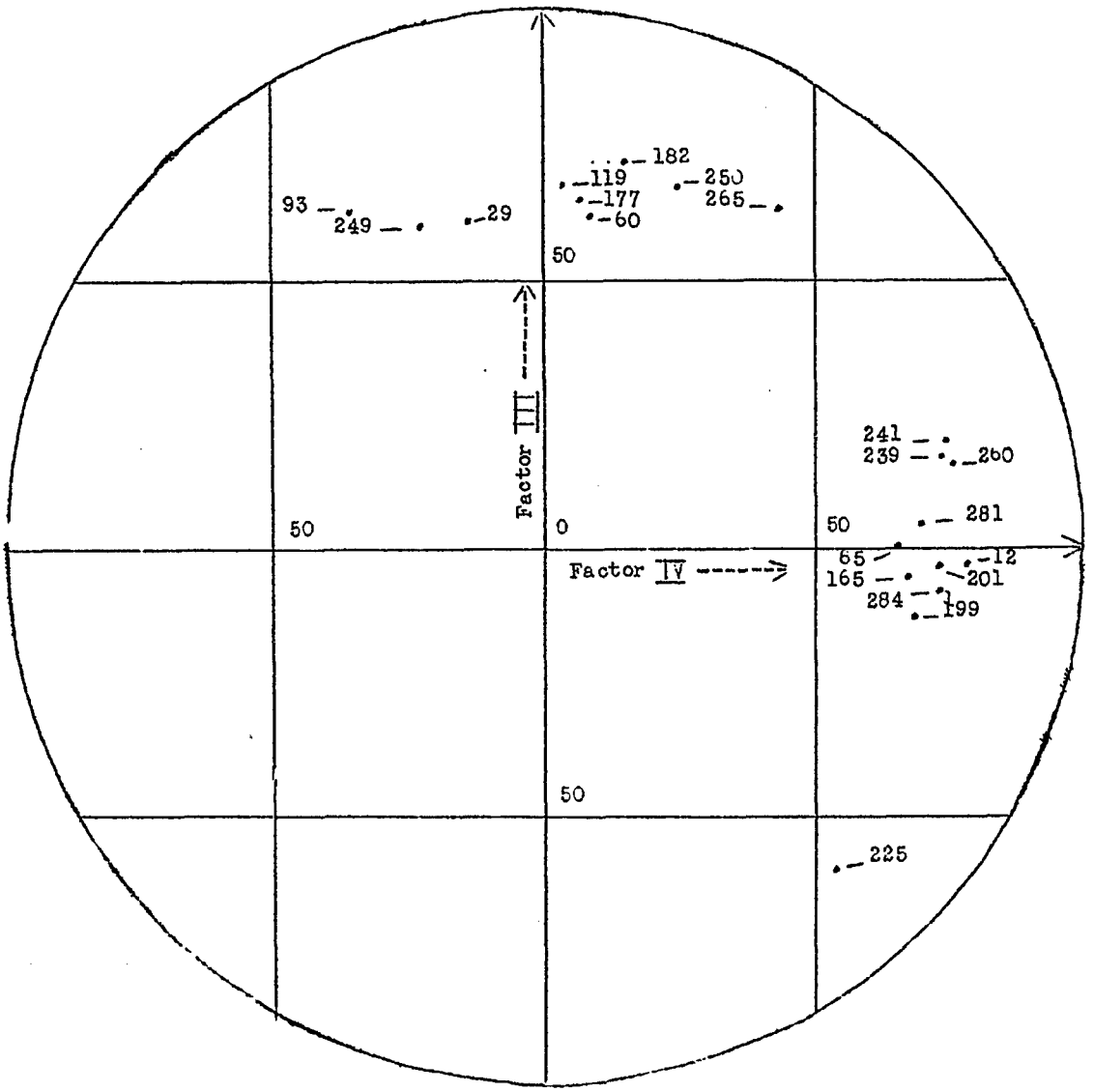

182
119
250
177
265
60
93
249
29
50
Factor III
241
239
260
50
0
50
281
65
12
165
201
284
199
Factor IV
50
225

Table VII
Intercorrelations and Residual Table
For 13 "Guessed" Factors

1 Ability	-	00	-02	-03	05	01	-03	03	00	00	01	-03	-01
2 Attitude	72	-	02	05	-04	-01	06	-03	01	01	01	-01	-03
3 Efficient Use of Subordinates	57	61	-	01	-05	04	-09	00	-03	07	09	02	00
4 Force	64	66	72	-	-06	-01	07	02	-01	00	00	04	-03
5 General Cultural Level	63	51	52	53	-	00	03	01	02	-05	-04	01	04
6 Knowledge of Profession	76	72	71	73	61	-	00	00	-01	-03	-02	-03	-02
7 Military Appearance	43	41	46	65	49	47	-	01	-07	00	00	03	-05
8 Morality	60	71	58	59	49	41	37	-	-01	-04	01	-02	04
9 Originality	71	75	75	79	46	01	52	63	-	03	-07	07	00
10 Performance	79	02	73	75	57	00	51	64	66	-	-01	-02	-06
11 Relation to Subordinates	57	71	63	70	52	69	47	71	74	73	-	04	-02
12 Relation to Superiors	64	61	56	66	51	43	33	73	69	73	71	-	-03
13 Sociability	42	50	59	61	47	51	33	67	62	61	70	59	-

Table VIII
Factor Loadings

	I Conscientious Attitude	II Personal Relations	III Force and Initiative	IV Job Performance	h^2
1	39	08	57	57	81
2	56	23	21	63	83
3	11	60	38	49	76
4	12	39	43	61	72
5	17	27	38	49	49
6	22	22	39	75	81
7	03	56	66	10	76
8	54	41	09	49	71
9	10	44	36	74	90
10	35	20	35	77	86
11	22	61	07	67	87
12	69	25	12	54	84
13	34	57	-01	45	64

Table IX
Intercorrelation of Criterion Variables and Item Factors and Residual Table

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	-	-03	-02	-06	-05	-06	-01	-07	-06	02	-03	-03	03	02	-05	-03	-07
2	45	-	-02	01	00	-09	00	03	03	03	-02	-05	00	05	-01	04	00
3	43	00	-	04	05	-03	05	06	-04	00	02	-06	-01	-05	-09	04	-07
4	71	52	53	-	01	-03	00	03	-02	-04	00	-06	00	-07	05	-06	01
5	51	81	79	57	-	-01	-04	-01	-03	05	01	-02	01	-02	06	-05	-02
6	53	76	73	55	05	-	-06	-05	-03	07	01	-04	00	05	09	-07	03
7	71	69	67	73	63	63	-	02	00	02	-03	-04	04	-07	02	-03	-04
8	54	79	77	67	67	66	64	-	09	-06	-04	-0.	05	-02	00	04	02
9	24	56	50	33	42	40	50	53	-	-02	02	04	05	03	10	01	-02
10	-04	14	10	-11	15	16	09	03	-01	-	-03	-06	-02	05	03	-03	03
11	09	35	36	29	28	31	32	42	23	05	-	-01	04	-06	03	-04	02
12	06	36	32	25	24	25	31	45	37	01	65	-	00	-04	-04	09	01
13	04	40	32	21	23	25	31	45	40	04	66	63	-	00	02	-02	03
14	03	19	18	15	16	11	16	21	43	11	19	23	23	-	01	-05	04
15	22	30	27	27	31	27	30	36	65	10	14	14	15	32	-	08	-04
16	02	22	17	-17	-07	-11	-07	-05	25	-10	-20	-07	-05	07	37	-	05
17	-13	08	06	04	02	04	03	07	27	05	13	05	15	57	24	57	-

Table X
Factor Loadings

	A	B	C	D	E	F	G	H	h^2
1	10	-02	21	52	78	-02	-01	-12	95
2	40	45	-03	74	05	20	09	-11	99
3	33	35	-07	70	10	22	19	00	82
4	31	-05	01	50	64	-09	06	03	77
5	24	07	05	84	12	15	02	01	81
6	28	05	08	89	11	14	-06	00	91
7	32	11	-04	86	33	13	07	03	99
8	48	08	-08	56	37	30	13	-05	80
9	26	07	26	43	00	-03	79	01	96
10	06	-06	00	07	-13	34	-03	00	15
11	72	-03	-10	10	04	12	02	10	57
12	94	00	-08	04	-01	05	12	02	91
13	87	07	04	02	-11	00	12	03	79
14	21	-10	-06	13	00	13	39	55	55
15	10	08	29	12	18	32	75	-0[illegible]	82
16	05	26	20	-04	03	14	27	80	85
17	-14	72	60	-09	03	00	12	23	97

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Classification: 003 650
Unclass

STI-ATI No. 207 351 *

Personnel Development
Acceptance Tests

O. A. Ohio State U.R.F.

O. A. No. None

Title FACTOR ANALYSIS OF OFFICER QUALIFICATION FORM OCL 23 - FINAL REPT

Author(s) ****

Date 28 Feb 1950

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