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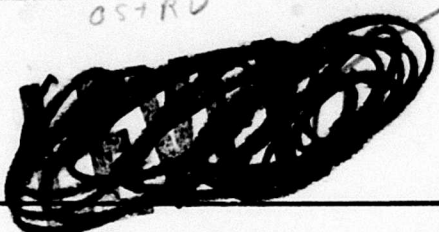
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RESEARCH NOTES

Number 52-30

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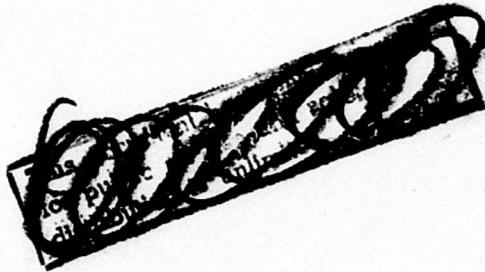
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14 AGO-PRS-RESEARCH NOTE-52-30

6 REPORT ON THE RESEARCH CONDUCTED BY THE CIVIL SERVICE COMMISSION ON THE SELECTION OF SUPERVISORS.

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PERSONNEL RESEARCH SECTION
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REPORT ON THE RESEARCH CONDUCTED BY THE CIVIL SERVICE COMMISSION
ON THE SELECTION OF SUPERVISORS

Background Request

In reply to a request for information, PRS received an invitation from the Civil Service Commission to inspect their research data on Supervisory Selection. (A copy of the correspondence is attached.)

Contents of Reply

The information requested in the basic communication under subparagraphs a through g is as follows:

a. No organized analysis has been made of supervisory jobs. The sections on "The Supervisor's Job" and "The Supervisor's Qualifications" are based on information obtained from the literature and an expanding body of knowledge obtained from experience in this program.

b. Validity data on four republished research studies were obtained. The difficulty involved in obtaining samples of these data is presented below:

STUDY A

Field Service Supervisors of Foresters. (First and Second Level Supervisors) Validity coefficients are available.
Criterion: Average rank order ratings. Study done in 1949:
68 cases.

	Average Rating	Grade
Supervisory Judgment	.06	.07
Supervisory Attitudes (Item Analysis Key)	-.11	-.01
Supervisory Attitudes (Predetermined Key)	.20	-.03
Biographical Information Blank	.07	.07

Study done in 1951 with same type of population and the same criterion: 21 cases.

Supervisory Judgment	.28
Jergensen's Classification	.26

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STUDY B

PROFESSIONAL ENGINEERS - Grades P5 and P6 employed at the Bureau of Ships -
Navy, in supervisory positions. Validity Coefficients: r biserials
Criterion: Average Rank Order Rating. Study done in 1950: 38 cases.

Supervisory Judgment	.32
Reading Comprehension	.07
Supervisory Attitudes (Predetermined Key)	.20
Kuder-persuasiveness score	.13
Strong - engineering interest score	-.08

STUDY C

BLUE COLLAR SUPERVISORS - in Charleston Navy Yard (N=70) and Long Beach Navy Yard (N=77). Criterion: Superior rating by rank order and paired comparison for more than one rating. Ratings were combined and then averaged.

Tests	Charleston	Long Beach
Supervisory Judgments	.31	.36
Reading Comprehension	.31	.25
Agency Organization, Personnel and Policy	.20	.19
Personnel Analysis	.21	.24
Arithmetic Reasoning	.19	.29
Vocabulary	.12	.00
Shop Mathematics	.17	.22
Mechanical Comprehensions	.31	.33
Paper Form Board	.12	.09
Biographical Information Blank	.12	.27
Supervisory Attitude	.45	.10
Individual Oral Interview	$\frac{1}{3}$.03	$\frac{2}{4}$.20
Group Oral Interview	$\frac{2}{3}$.32	$\frac{4}{4}$.22

- $\frac{1}{3}$ N=23
- $\frac{2}{3}$ N=29
- $\frac{3}{3}$ N=37
- $\frac{4}{4}$ N=22

Intercorrelations between selected tests computed for the Charleston Navy Yard sample.

	1.	2.	3.	4.	5.	c
1. Supervisory Judgment		.74	.61	.47	.18	.31
2. Reading Comprehension			.64	.43	-.05	.31
3. Mechanical Comprehension				.46	.18	.31
4. Personnel Analysis					.01	.40
5. Supervisory Attitudes						.45

Multiple R's with the criterion ratings were as follows:^{1/}

- R_c (542) = .62
- B_5 (Supervisory Attitudes) = .447
- B_4 (Personnel Analysis) = .315
- B_2 (Reading Comprehension) = .18)
- Total Variance Covered
- R_c^2 (542) = 38.6%
- Test 5 = 20.1%
- Test 4 = 12.6%
- Test 2 = 5.9%

^{1/} In studies C and D, OSTERU has computed multiple R's where inter-correlations were available. These must be interpreted with extreme caution due to the size of the sample and to the several types of correlation coefficients available. This information is presented however, as the only information of its type available on these studies.

STUDY D

FIRST LEVEL SUPERVISORS OF CLERICAL WORKERS at GE 4 and 5 - Bureau of Accounts, Treasury Department. Twenty Six experimental predictor scores were administered in this study. The validity coefficients ranged from -.08 to .66. Criterion: Average ratings of supervisors. Study was done in 1950: 74 cases.

Intercorrelations of selected tests were obtained (Pearsonian r's except as noted) and were as follows:

Tests	1.	2.	3.	4.	5.	6.	7.	c
1. Attention to details		.38	.30	.33	.34	.34	.30	*.38
2. Outlines			.07	.11	.26	.53	.76	*.45
3. Biographical Information Blank (Item analysed key)				.27	.22	.14	.11	*.66
4. Supervisory Attitudes (Item analysed key)					.78	.17	.13	*.58
5. Supervisory Attitudes (Predetermined key)						.28	.34	** .42
6. Vocabulary							.56	** .28
7. Supervisory Judgment								*.45

*Tetrachoric r

**Biserial r

Multiple R's^{2/} with the criterion were:

$$R_c(325) = .79$$

$$B_3(BIB) = .592$$

$$B_2(\text{Outlines}) = .358$$

Total Variance Covered

$$R_c^2(542) = 63.5\%$$

$$\text{Test 3} = 39.1\%$$

$$\text{Test 2} = 16.1\%$$

$$\text{Test 5} = 8.3\%$$

^{2/} Multiple R's computed by OSTRO, see 1/.

c. Minimum qualifications are the conventional Civil Service Commission statement.

d. The validity of ratings referred to on page 21 of the publication are those published by PRS, Marine Corps, and others. The reference does not apply specifically to CSC ratings.

e. The validation data referred to on the two systems of interviewing are presented in Study C. The correlation coefficients for two populations were:

	Charleston	Long Beach
Individual Oral Interview	.03	.20
	N = 23	N = 29
Group Oral Interview	.32	.22
	N = 37	N = 22

f. Copies of the appropriate tests will be sent to PRS through channels.

g. The only other instruments used are the Qualifications Statement for Promotion to Supervisory Positions included as appendix A and B of the publication. These are analysed clinically and no data are collected.

Validation data are also reported in two publications. They are Educational and Psychological Measurement Volume Seven, Number Three, Autumn 1947 page 385 and Personnel Psychology, Volume 3, Number 2 - Summer 1950, page 179. Aluminum Corporation of Canada and the Air Forces, Civilian Personnel Research also have some data that might be obtained.

There are other publications available but no statistics are reported in them.

/s/ H. L. McAdoo
H. L. McADOO
Chief, OSTRU

Prepared: 19 October 1951

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AGPP-L 461

3 August 1951

(3 Aug 51)

Honorable Robert Ramspeck
Chairman, United States Civil Service Commission

Dear Mr. Ramspeck:

Your publication entitled "Selecting Supervisors" has been received and read with considerable interest.

One of the responsibilities of The Adjutant General's Office is research on selection, classification, and utilization of military manpower. Consultative service to the Civilian Personnel Division, Office of the Secretary of the Army, on matters pertaining to personnel placement and utilization of civilian personnel is also rendered. Current research, both in-service and by contract, is being conducted on problems involving military personnel which are closely related to those covered in your publication. For these reasons, I am especially interested in the test materials and other selective procedures you have developed and the research data upon which they are based.

It is requested that copies of reports on any of the studies dealing with the underlying research on selecting supervisors which have been completed be furnished The Adjutant General's Office, Attention: AGPP-L. If no formal research reports are available at this time, such detailed information as can be furnished would be appreciated on the following topics:

- a. The analyses of the supervisory job upon which the sections "The Supervisor's Job" and "The Supervisor's Qualifications" were based.
- b. The data on the validity of the several written tests for the supervisory positions suggested on page 14 of your publication.
- c. Methods of determining minimum qualifications and minimum essentials for a given job.

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AGPP-L 461 (3 Aug 51)
Honorable Robert Ramspeck

3 August 1951

d. Such validation data as are available for the ratings mentioned on page 21.

e. The validation data available on the two systems of interviewing as discussed on pages 20 and 21.

f. Copies of the appropriate tests.

g. Other instruments discussed.

Research results of studies currently being conducted in The Adjutant General's Office will be furnished when available if they are of interest to you.

Sincerely yours,

Wm. E. BERGIN
Major General, USA
The Adjutant General

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