U. S. NAVAL PERSONNEL RESEARCH ACTIVITY

SAN DIEGO, CALIFORNIA 92152

TECHNICAL BULLETIN STB 68-9 FEBRUARY 1968

THE STRONG VOCATIONAL INTEREST BLANK IN PREDICTING NROTC OFFICER RETENTION: PART II. FAKABILITY

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February 1968

PF0160701B02
Technical Bulletin STB 68-9

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SUMMARY AND CONCLUSIONS

Problem

Since 1964, the Strong Vocational Interest Blank has been administered to NROTC (Regular) applicants. Inasmuch as retention scale scores from the Strong Vocational Interest Blank are used in selection, it was essential to assess this scale's fakability.

Background

A great deal of civilian research has indicated the Strong Vocational Interest Blank to be of value in predicting occupational tenure. In addition, recent research at this activity on this instrument has indicated its value in predicting naval officer tenure.

Approach

The responses of several groups of subjects administered the Strong Vocational Interest Blank under a variety of conditions were contrasted. A scale reflecting differences between standard and faked responses was constructed and applied to a variety of NROTC samples for comparisons.

Findings, Conclusions, Recommendations

Under instructions to do so, some individuals can increase their scores by faking. However, for NROTC applicants it appears that while there is a slight tendency for applicants to fake responses, as measured by a fake detection scale, there is very little actual gain on the retention scale itself.

It was recommended that since faking does not appear to be a serious problem, the use of the Strong Vocational Interest Blank career retention scale be continued in officer selection.

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CONTENTS

TABLES

FIGURE

THE STRONG VOCATIONAL INTEREST BLANK IN PREDICTING NROTC OFFICER RETENTION: PART II. FAKABILITY

A. BACKGROUND

As part of the development and evaluation of test instruments for Naval Reserve Officer Training Corps (NROTC) selection, the 1964 revision of the Strong Vocational Interest Blank (SVIB) was administered to 1,900 NROTC officers on active duty in 1964. The interest responses of officers who had served 4-6 years beyond obligated duty were compared with those of officers who left active duty within six months after completing their obligation. A naval officer retention scale, referred to as N-5, was developed by selecting the item responses with a percentage difference of 10 or greater. This scale provided excellent separation on the criterion samples and its validity, though somewhat reduced, remained high on a variety of cross-validation samples.

Despite the impressive validities cited in Part I of this report, information on fakability is essential for any test before it may be recommended for use in selection. If a test is found to be faked under operational conditions, provisions for fake detection or prevention must be instituted. Furthermore, since it has been shown in many studies that some individuals distort their responses to the SVIB in a manner that improves their selection-relevant scores, it was necessary to investigate the fakability of the officer retention scale. This report presents data on the fakability of the retention scale as well as on the construction of a scale for detecting dissimulation.

B. PROCEDURES AND RESULTS

The SVIB was administered to a sample of 122 Officer Candidate School (OCS) students twice--once under standard and once under fake instructions. Under the standard instructions, subjects were told to answer the items as they normally would. Under the fake administration, subjects were instructed to respond as they believed a career naval officer would respond.

The actual instructions for the fake administration were:

"When you complete the Strong Vocational Interest Blank this time, you are asked to use all of the knowledge you have about the vocational interests of a career naval officer. Respond to the items as nearly like a CAREER naval officer as you can."

Table 1 provides a summary of the results for the N-5 Scale on this group. These data clearly indicate that under instructions to do so, the retention scale (N-5) can be faked by most subjects. The subjects raised

TABLE 1

SVIB N-5 Scores for OCS Students Under Faked and Standard Administrations

Administration	N	$\overline{X}$	S.D.	Percentage Overlap	Z
Standard	122	93.56	14.51	71	9.93
Faked	122	103.79	13.19		

their scores from a mean of 93.56 to a mean of 103.79, an increase which is statistically significant beyond the .001 probability level. One interesting finding not shown in the means is that 39 subjects actually lowered their scores, four subjects maintained the same score, and 79 subjects increased their scores. The correlation between the two sets of N-5 scores was .18.

Because of the apparent fakability of the N-5 Scale, it was essential to attempt the development of a scale to detect faking. By comparing responses of the OCS sample made under the fake and standard administrations, 120 item responses having a percentage difference of 20 or greater were identified. Of these, 30 were scored responses on the N-5 Scale. These 30 responses were not included in the fake scale since other items not related to retention are available for an independent estimate of dissimulation. Consequently, the fake scale, referred to henceforth in this report as S-1, contains 90 item responses.

Examination of the item content in this scale reveals several interesting trends. The stereotypes represented in the faked items include more frequent endorsement of mechanical and technical interests, aggressive leadership and management interests, physical activity and outdoor interests, and pursuits of a practical nature. There is also a marked tendency to avoid items representing aesthetic interests.

The final key was scored so that each item indicating faking received a +1 weight. When a response was selected more frequently by fakers it was scored +1, and when a response was avoided, i.e., endorsed less under faking instructions, the alternatives were scored +1. The results of scoring the OCS samples on the S-1 Scale are shown in Table 2. While the S-1 Scale discriminates extremely well between the two administrations, these data are not conclusive since they were used in key construction.

As a check on this scale, additional data were available. Assuming that the fake scale is capable of identifying faking, a group motivated to

TABLE 2

SVIB S-1 Scores for OCS Students Under Faked and Standard Administrations

Administration	N	$\bar{X}$	S.D.	Percentage Overlap
Standard	122	27.30	8.09	30
Faked	122	46.31	10.23	

fake should obtain higher scores than a group not so motivated. Applicants who were selected (N = 1,300) in the 1964 NROTC program were presumably motivated to fake while a sample (N = 269) from this group that was retested at the end of their freshman year should not be so motivated. The S-1 scores for these groups were obtained and are presented in Table 3. The means for the applicant and freshman administration, 32.7 (S. D. = 6.5), and 29.5 (S. D. = 6.8), respectively, indicate a decrease of approximately one half of a sigma unit. Given this indication that faking was attempted, did the N-5 scores also decrease? The applicant N-5 mean shifted from 105.1 (S. D. = 13.1) to 103.04 (S. D. = 15.2) when retested as freshmen, or only .14 sigma units. Since factors other than faking may easily account for this small change, a comparison was necessary that provided more stringent control.

TABLE 3

Comparison of NROTC Applicants and Freshmen on S-1 and N-5 Scales

Selectees Tested as	N	S-1 Scale		N-5 Scale	
		$\bar{X}$	S.D.	$\bar{X}$	S.D.
Applicants	1,300	32.7	6.8	105.10	13.1
Freshmen	269	29.5	6.8	103.04	15.2

To provide such a comparison, SVIB's for the 269 individuals retested as freshmen could be compared with their SVIB's taken as applicants. Since some freshmen did not take the SVIB as applicants, only 249 of the possible 269 pairs of answer sheets were available for this comparison. Figure 1 presents a bivariate distribution of N-5 scores of this sample. Inspection of this scatter plot reveals little tendency for individual shifts in N-5 score from the motivated to the nonmotivated administration. Further, the correlation is .67 between N-5 scores on the two administrations.

Further evidence on faking and its effects may be obtained from this sample's means on N-5 and S-1, shown in Table 4.

TABLE 4

Comparison of NROTC Selectees Retested as Freshmen on S-1 and N-5 Scales

Administration	N	S-1 Scale		N-5 Scale	
		$\bar{X}$	S. D.	$\bar{X}$	S. D.
Selectee	249	32.1	6.22	104.6	15.0
Freshmen	249	29.4	6.95	103.4	13.0

On the fake scale the selection situation mean for this group was 32.1 (S. D. = 6.22), and the retest mean was 29.4 (S. D. = 6.95). On the N-5 scale these means were 104.6 (S. D. = 15) and 103.4 (S. D. = 13), respectively. These differences indicate that although some faking is attempted or, at least, that some response distortion occurs, little gain (i.e., less than one tenth of a standard deviation) is made on the career officer scale. This is probably due to a small group of item responses on the N-5 scale that are faked in the wrong direction. An alternative explanation is that freshmen, even though they were in the NROTC program, still believe it is necessary to appear motivated. While this is no doubt true for some individuals, the half-standard deviation drop on S-1 argues against such a general interpretation.

An additional sample of 20 NROTC college sophomores was instructed to respond as they thought a career Navy officer would. By comparing their fake scale (S-1) mean and career scale (N-5) mean with those of a group of sophomores

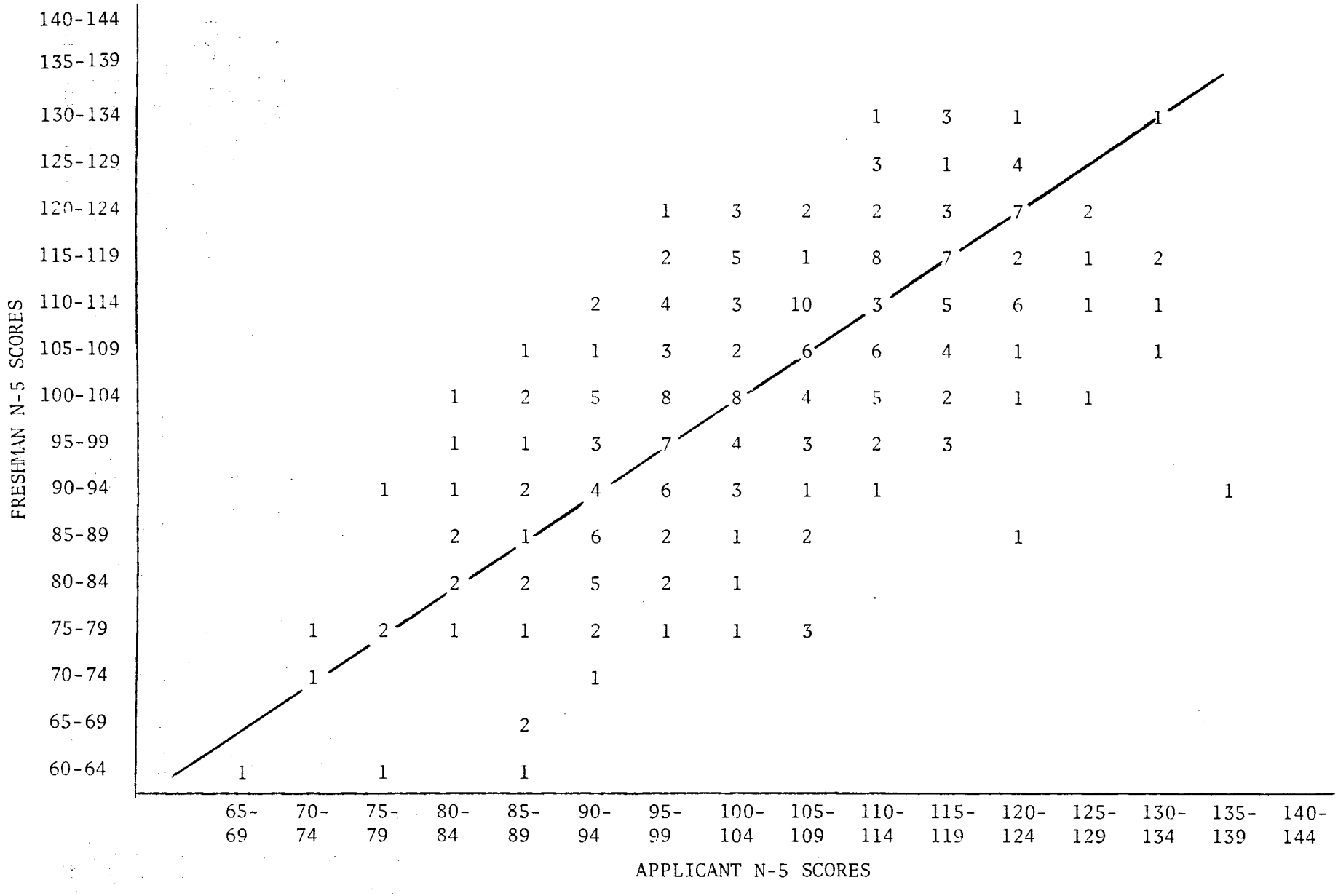

Figure 1. Bivariate Distribution of N-5 Scores for 249 NROTC Students Tested as Applicants and Retested as Freshmen.

(N = 10) responding to the SVIB normally, the effects of faking may be further assessed. These means, presented in Table 5, indicate that faking was attempted by the sophomores instructed to fake, as shown by the difference in S-1 scores. Despite this intentional attempt to fake, their N-5 scores were not improved. These results, which indicate little improvement in N-5, are in direct contrast to the results obtained when OCS subjects were instructed to fake.

TABLE 5

Comparison of NROTC Sophomore Fake and Standard SVIB Administrations on S-1 and N-5 Scales

Administration	N	S-1 Scale		N-5 Scale	
		$\bar{X}$	S. D.	$\bar{X}$	S. D.
Standard	10	28.3	8.4	102.5	14.3
Fake	20	33.3	10.0	102.3	11.4

These comparisons involving NROTC students, taken together, indicate that while in a motivated situation some faking is attempted, career scale scores are not improved. The most likely explanation for this finding is that N-5 includes some items that are typically faked in the "incorrect" direction. As a consequence, while individuals trying to fake will tend to endorse more items that are scored positively on the N-5 scale, they will also tend to endorse more that are scored negatively. Perhaps the reason for the OCS subjects' "successful" faking may be attributed to their standard administration scores being very much lower than in other samples. As a result, more "room" is available for score increases.

One final set of comparisons provides additional insight into applicant faking. These comparisons may be made by examining the data reproduced from Part I of this report in Table 6. First, these data show a considerable advantage on N-5 for applicants over officers commissioned in 1961 and still on obligated duty. Due to attrition throughout the NROTC college years, it would be logical to expect a higher mean score for the commissioned group rather than the lower mean noted. If, however, substantial faking occurred among applicants, this difference might be expected. Another explanation is that the difference found could be due to a reduction in the kind of interests represented in the career scale, due to such factors as increasing

TABLE 6

Comparison of NROTC Applicants, NROTC (Regular) Commissioned Officers, and Test-Retest Samples on N-5 Scale

Sample	N	$\bar{X}$	S. D.
NROTC			
Applicants (1964)	1,266	104.6	13.1
Commissioned Officers (1961)	646	93.0	16.0
CIMR Ten-Year Group			
Test	152	99.6	12.5
Retest	152	90.6	13.0
CIMR Eight-Year Group			
Test	171	100.0	13.0
Retest	171	92.5	12.7

age, change of values, etc. In this case it would be expected that had the officer sample been tested as applicants, their scores would have been similar to those of the present applicants. In fact, this interpretation has some empirical support. For two non-NROTC test-retest samples initially tested at age 17-18, scores on N-5 decreased approximately eight-tenths of a standard deviation over an eight and a ten year period. This decrease is approximately equal to the mean difference found on N-5 between applicants and officers. These data indicate that the major part of the score difference may be attributed to change of interests with increasing age rather than to faking. Furthermore, since the change also appeared in a non-NROTC sample, the change in interests cannot be attributed to experience in the NROTC program.

C. CONCLUSIONS

From the available data, the following conclusions seem warranted:

(1) When instructed to do so, some individuals can increase their N-5 scores by faking.

(2) As indicated by scores on a specially constructed fake scale (S-1), there is a slight tendency for applicants to fake responses, although there is very little actual gain on the N-5 retention scale.

(3) From all available information, faking does not appear to be a serious problem and the continued use of the SVIB career scale in officer selection is recommended.

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UNCLASSIFIED
Security Classification

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1 ORIGINATING ACTIVITY (Corporate author)	2a. REPORT SECURITY CLASSIFICATION
U. S. Naval Personnel Research Activity San Diego, California 92152	UNCLASSIFIED
	2b. GROUP

3 REPORT TITLE

THE STRONG VOCATIONAL INTEREST BLANK IN PREDICTING NROTC OFFICER RETENTION: PART II. FAKABILITY

4 DESCRIPTIVE NOTES (Type of report and inclusive dates)

Final

5 AUTHOR(S) (First name, middle initial, last name)

Norman M. Abrahams, Idell Neumann, William H. Githens

6. REPORT DATE	7a. TOTAL NO. OF PAGES	7b. NO. OF REFS
February 1968	15	0

8a. CONTRACT OR GRANT NO	9a. ORIGINATOR'S REPORT NUMBER(S)
b. PROJECT NO PF0160701B02	STB 68-9
c.	9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)
d.	

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13 ABSTRACT

Since 1964, the Strong Vocational Interest Blank (SVIB) has been administered to NROTC (Regular) applicants. Inasmuch as retention scale scores from the SVIB are used in selection, it was essential to assess this scale's fakability.

A great deal of civilian research has indicated the SVIB to be of value in predicting occupational tenure. In addition, recent research at this activity on this instrument has indicated its value in predicting naval officer tenure.

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14. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT