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A COMPARATIVE STUDY OF GPA PREDICTABILITY

USING THE JAPQ AND THE SVIB

by

Kathleen A. Peterson

A thesis submitted in partial fulfillment
of the requirements for the degree

of

MASTER OF SCIENCE

in

Psychology

Approved :

UTAH STATE UNIVERSITY
Logan, Utah

1974

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Kathleen A. Peterson

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ABSTRACT

A Comparative Study of GPA Predictability

Using the JAPQ and the SVIB

by

Kathleen A. Peterson, Master of Science

Utah State University, 1974

Major Professor: Dr. Elwin C. Nielsen
Department: Psychology

The purpose of this thesis was to compare the results from two vocational interest blanks, the Job Activity Preference Questionnaire (JAPQ) and the Strong Vocational Interest Blank (SVIB) in the prediction of grade point averages (GPA) for university students. An investigation was also made to determine if the variable vocational interest would contribute to a multiple r composed of American College Test (ACT) scores and GPA.

One hundred students were administered both instruments and predictions made of their GPA's after the completion of two quarters of classroom study and after the completion of the most recent quarter of classroom study. It was found that the predictions from the JAPQ were as good as or better than predictions based on SVIB achievement scores. For the 36 males in the sample a corrected multiple correlation coefficient of .48 resulted between Undergraduate Cumulative Grade Point Average (UCGPA) and the JAPQ Job Dimension Score whereas the SVIB Achievement Scale secured a correlation of .21. The JAPQ correlation is

significant at the .005 level, but the SVIB correlation is insignificant. When the 64 females in the sample were tested the JAPQ secured a corrected multiple correlation coefficient of .40, while the SVIB secured a cross-validation coefficient of .31 between interest and UCGPA. The JAPQ correlation is significant at the .005 level and the SVIB correlation is significant at the .05 level.

It was found that for the 22 males in the sample, for which ACT scores were available, when the variable vocational interest, as measured by the JAPQ or the SVIB, is added to the ACT it increases the correlation with GPA from .13 to .63 with the JAPQ and from .13 to .23 with the SVIB. However, for the 46 females in the sample, who had available ACT scores, the gain in adding the variable vocational interest to the combined prediction of ACT and GPA is negligible.

The results were discussed in respect to vocational interest and academic achievement, and for the implications of these results for vocational counselors.

(60 pages)

CHAPTER I
INTRODUCTION

Educators and counselors have been investigating, for years, why some students achieve and others do not achieve. In order to better understand this dilemma, student advisors and counselors have found it helpful to investigate vocational interest variables in addition to aptitude variables.

The most commonly used instrument to assess vocational interest on university campuses is the Strong Vocational Interest Blank (SVIB) (Anastasi, 1970). It has a validated Academic Achievement Scale (AACH), which attempts to identify patterns of interests associated with good scholarship. Counselors report this scale helps them to better understand the educational process and gives additional information about the student.

The SVIB AACH Scale has been used in studies predicting college grades from variables other than aptitudes. These studies have yielded significant correlations between interests and college achievement. To date, studies using the SVIB AACH Scale for this purpose have given rise to predictive correlations equal to or greater than .36 (Campbell and Johnson, 1966; Leigh, 1969).

The existing approaches to vocational interest assessment, as determined by the SVIB, are limited (Birdie, 1950; Holland and Lutz, 1967; Dolliver, 1969; and Whitney, 1969). There are 59 occupational keys for the men's inventory and 34 occupational keys for the women's inventory.

This is not a substantial occupational reference when there are 22,000 occupations (U.S. Department of Labor, 1965) and new occupations developing with technological change.

Since the physical make-up of the SVIB, which will be further explained in Chapter II, restricts the number of vocational interests the instrument can assess, it is desirable to investigate the Job Activity Preference Questionnaire (JAPQ), an instrument which can measure interest for any identified job. The JAPQ, developed by Mecham, Harris, McCormick and Jeanneret (1972), approaches the measurement of vocational interests differently from the SVIB, attempting to relate measured interests directly to the behavioral units characterizing each occupation. That is, for each question a rating scale is used by the individual to indicate how much he wants each of the listed work activities or situations to be a part of his job. These items or work situations are not related to a specific occupational scale, but are job elements, which can be considered as "common denominators" of work, relevant to any type of vocation. Thus, the JAPQ is designed so that it can measure vocational interests, for male and female in any identified job.

As stated above, researchers have developed an AACH Scale for the SVIB and have obtained significant predictive correlations between interests and college achievement when testing the scale. However, the JAPQ has not been tried in this area.

The problem is that despite the considerable amount of research done with the SVIB, there is a lack of JAPQ data to establish whether JAPQ job dimension scores are equal to or better than SVIB achievement scores for predicting college students' grade point averages.

CHAPTER II
REVIEW OF LITERATURE

Three separate considerations underlie the statement of the problem. The first is vocational interest theory and the role it plays in understanding human behavior. Second, is an investigation of the history and the physical make-up of two vocational interest tests--the SVIB and the JAPQ, and third is the SVIB AACH Scale as a predictor of college performance.

Vocational Interest Theory and Human Behavior

Since 1919, when Strong, Fryer and their associates first began to struggle with the problem of vocational interest measurement, vocational interests and aspirations have become accepted as important phenomena in the field of human behavior. These vocational interests pervade all phases of human life and form one of the mainsprings of an individual's actions (Bordin, 1943). Strong (1934) suggested that an adequate measure of a man's interests will prove the best approach to an understanding of him.

The vocational interest inventory is extensively used in counseling settings. However, the process through which late adolescents move in the transition from High School training and education to a work situation is not definitely known (Carter, 1940). There is no single chronological age at which a person develops significant vocational interests: for different people the age differs.

Bordin (1943) approached vocational interest theory from a standpoint of three categories. The first is the static point of view, which carries the implication of biological determinism. That is, vocational interests are fixed after the individual has reached maturity. The dynamic view is the second category, in which Bordin stated vocational interest is the product of a concatenation of psychological influences, subject to change with changes in the person's equilibrium. The third category is the empirical view which suggested that there are sets of preferences which can be shown to distinguish successful men in various occupations from men in general.

Another theorist, Ausubel (1954) theorized that a person must acquire intrinsic feelings of adequacy and worth before he can make a significant vocational choice. The individual does this through exploration--especially during his adolescent years. In exploration the individual seeks educational opportunities, makes independent decisions, and plays different kinds of adult roles. This way the person establishes his own identity.

Ginzberg (1951) and Super (1963) have viewed vocational choice as a developmental process of several stages. Ginzberg conceptualized this development to be an early fantasy exploration of self, through a more realistic identity-seeking to a final stage of stability and maturity. The tentative choice stage is comprised of three exploratory stages--examination, crystallization, and specification. Super (1963) associated developmental tasks with the exploratory stage to include a testing through trial jobs. Both theorists agreed that the person must evolve through all of these stages before he can arrive at a realistic stage of vocational development.

In summary the cited theorists suggested that the individual does not arrive at a vocational choice without much introspection. However, the process through which an individual arrives at a vocational choice is unique to him, but a vocational interest assessment can be of assistance.

The SVIB and the JAPO

This section of the review of literature will examine two vocational interest instruments. The first inventory to be reviewed will be the SVIB, a commonly used instrument (Cronbach, 1960; Anastasi, 1970). The development of the SVIB resulted from a graduate seminar on vocational interest conducted at the Carnegie Institute of Technology during the academic year 1919-1920 (Fryer, 1931). The evolution of the JAPO resulted from research done by experimenters who expressed a need to establish a vocational interest inventory, using the "worker-oriented" job elements developed by Dr. Ernest J. McCormick (Harris, 1971; Meham, Harris, McCormick, and Jeanneret, 1972).

The following summary of the SVIB is taken from Campbell (1966). He states Form T399, which was published in 1966 is the SVIB currently in use on university campuses. It consists of 399 items, is grouped into eight parts and has separate forms for men and women. The first five sections of the SVIB require the respondent to record his preference by responding like, indifferent, or dislike to stated: 1) occupations, 2) school subjects, 3) amusements, 4) activities, and 5) types of people. The last three parts require the examinee to rank given activities in order of preference, make choices between pairs of

work activities or ways of doing things, and rate his present abilities and other personal characteristics. (The SVIB Form T399 for men is reproduced in the appendix.)

There are 59 occupational keys for scoring the men's form and 34 keys for the women's form. Scores on the SVIB are based on differences between the interests of an occupational criterion group and those of men, or, women-in-general reference groups. The criterion and reference groups will be explained in the next paragraphs.

The general reference group consisted of 1,000 individuals. These men, or women, depending upon the battery being validated, were people from a wide variety of professional and business occupations that college graduates usually enter. The average age was 40. It is interesting to note that Strong (1943) and Anastasi (1970) have suggested that the SVIB is more suitable for professional and business occupations because the men, or, women-in-general reference group was chosen from the professional and business occupations, with no skilled and unskilled tradesmen included.

The criterion reference occupational groups are smaller than the general reference group. There is a criterion reference group for each occupational scale. These groups contain 150 to 300 persons averaging 40 years of age. Each person had been employed in the given occupation for three years or more and reported work satisfaction. These groups were validated in 1930 but three studies have collected new criterion groups for occupations where scales already existed (Strong and Tucker, 1952; Kriedt, 1949; and McCornack, 1954). The three studies, based on physicians, psychologists, and social workers, respectively, found some mild differences between the original and new criterion groups, though

it was not clear how much of the difference was due to shifts in interests within the occupations and how much to the use of different sampling methods (Campbell, 1966). Harris suggested in 1971 that changes in a particular occupation over a period of time may invalidate the key prepared for that occupation.

The second vocational interest inventory to be reviewed is the JAPQ, which was published in 1972 (Mecham, Marris, McCormick and Jeanneret, 1972). It is fashioned after the Interest Analysis Questionnaire (IAQ) (Harris, 1971).

The JAPQ is an instrument which provides for the expression of interests in the job elements of the Position Analysis Questionnaire (PAQ) (Mecham, Harris, McCormick and Jeanneret, 1972). Since this is the situation it is necessary to review the PAQ in order for the JAPQ to be understood.

The PAQ is a structured job analysis instrument, consisting of 194 elements, with which human work can be assessed. These elements are considered to be worker-oriented rather than job-oriented, by McCormick and thus can be termed as "common denominators" of work, relevant to any type of job since there is a logically limited number of human behavioral variables relevant to job performance (Mecham, 1970).

The "common denominators" of work make possible a quantified job analysis capable of statistical evaluation (McCormick, Cunningham and Gordon, 1969). When using the quantified job analysis approach three premises are made (McCormick, Jeanneret and Mecham, 1969b). The first premise is that a given kind of work behavior involves the same requirements of the worker in whatever job the activity occurs. Second, it is assumed that there is order in human work. The third assumption is that

the use of the worker-oriented job elements will make possible the statistical determination of the nature of that job structure.

Jeanneret and McCormick (1969) used principle components analysis to identify job dimensions within the divisions of the PAQ. The researchers identified thirty-two job dimensions which tend to occur in combination in any job which might be considered. (Refer to Table 4 of the appendix.)

With basic knowledge of the PAQ it is appropriate to review the JAPQ. The items are responded to by ranking, on a scale, the degree to which the subject wants each of the work activities or situations to be a part of his future work. Section one requires the respondent to rate the degree to which he would be willing to engage in an activity such as reading to get the information needed in his work. In the second section the examinee rates how important stated abilities and activities such as measurement are to his work. Section three requires the subject to rank the importance, to him, of contact with different types of people in his work (e.g., students, trainees or apprentices). In section four, five job situations are listed and the respondent is to rate the degree to which he would be willing to accept each in his work. The fifth section has the subject indicate how much he would like to use listed technical devices, such as stopwatches in his work. Section six asks the examinee to indicate how much of his working time he would be willing to spend in activities such as sitting. The seventh section describes four degrees of injury ranging from minor to serious and has the respondent rank the degree to which he would be willing to accept these dangers in his work surroundings. Section eight requests the subject to rate how much he would want a factor such as detail to be a part of his work. The ninth

section consists of seventeen statements relating to work elements, and has the subject rate how important elements such as competition, responsibility and supervision will be to his work. (The JAPQ is reproduced in the appendix.)

The inventory consists of 150 job elements. These elements, or items, require the respondent to make only a simple expression of preference. The answers are not weighted by comparison with criterion groups. Scores are procured for each of the 32 job dimensions to determine the examinees' pattern of interests. The battery is used for both men and women, and is applicable for both professional and business occupations as well as skilled and semi-skilled occupations (Longhurst, 1973).

In summary, the JAPQ has two distinctions from the SVIB. First, the JAPQ items are not in reference to a specific occupational scale, validated by a criterion-reference group. Instead the elements attempt to relate measured vocational interests directly to the behavioral units characterizing each occupation. The JAPQ elements are designed so that a quantified job analysis is possible. Thus it can measure vocational interests for jobs on which an occupational scale has been validated by a criterion-reference group. It is very difficult to locate this homogeneous occupational group so this process can be time consuming and expensive. The second distinction is that the JAPQ is appropriate for skilled and semi-skilled vocations as well as professional and business occupations. Since many students drop out of university and enter the trade areas, the assumption can be made that the JAPQ would be more appropriate for assessing the university student's vocational interest than the SVIB. As stated earlier, researchers suggest that the SVIB

is most suitable for students with professional and business vocational interests. These two distinctions alone suggest that the JAPQ is more flexible than the SVIB.

Interest and Achievement

Studies have been made in regard to predicting college achievement from the SVIB AACH Scale. The following is a summary of these studies.

Campbell and Johnson (1966) developed the men's academic achievement scale (AACH). In developing this scale, items from the SVIB that demonstrated a large response difference between the top and bottom 40 percent of the sample were selected to complete the AACH Scale. They observed that this scale, which includes items that differentiate between good and poor students is moderately effective in predicting grades and eventual educational level. The validation group consisted of 462 freshmen entering the University of Minnesota's Liberal Arts College in 1961. A cross-validation sample of 250 was held out from the same class. The subjects were rank-ordered by their High School and College Grand Point Averages (GPA). The correlation between the AACH Scores and first year cumulative GPA was .52 for the validation group and .36 for the cross-validation group. However, the AACH score did not contribute to a multiple r composed of High School Rank (HSR) and Minnesota Scholastic Aptitude Test (MSAT).

Campbell (1965) did a second cross-validation study of his 1961 study. This group was composed of 283 participants in a 25-year follow-up study of University of Minnesota students. This study was retrospective, rather than predictive, with a correlation of .35 between the

AACH Scores and the Cumulative GPA. (Campbell used the Cumulative GPA at the completion of the subjects education.)

An Academic Achievement Scale (AACH) for the Women's form was developed by Campbell and Johnson (1966) analogous to the Men's form. The validation group consisted of 658 freshmen entering the University of Minnesota's Liberal Arts College in 1966. A cross-validation sample of 250 was held out from the same class. The correlation between the AACH scores and the first year GPA's was .42 for the validation group and .29 for the cross-validation group.

Salter (1969) investigated the value of the SVIB AACH Scale as a predictor of college performance. He reported an r of .20 between AACH Scores and Cumulative GPA. His subjects were 224 male and female students who had requested decision-making help at the University of Utah Counseling Center. Salter purports that perhaps the reason for the low correlation is that his study dealt with a restricted population.

Lindsay and Althouse (1968) did a study similar to Salter's. They examined the relationship between AACH Scale scores and first quarter GPA for a group of 388 Pennsylvania State University freshmen. The authors obtained correlations of .10 for 299 males and .25 for 89 females.

Leigh (1969) obtained correlations more similar to Campbell and Johnson. He secured an r of .32 between the AACH Scale scores and first quarter GPA's for 1,994 freshmen at the University of Utah.

In summarizing these studies it is evident that there is a correlation between vocational interest, as determined by the SVIB AACH Scale, and the student's GPA. Interest can effectively predict a university student's GPA.

However, as cited earlier in the Review of Literature, the JAPQ, because of its' design may make a more accurate assessment of the student's interest than does the SVIB. In order to determine the validity of the JAPQ as a vocational interest instrument further study is needed to find if the JAPQ scores can be used as predictors of academic achievement. For this reason the researcher did a comparative study between the SVIB and the JAPQ to determine if the JAPQ scores are equal to or better than the SVIB scores for predicting college students' grade point averages.

CHAPTER III

METHODOLOGY

The purpose of this present study was directed at three goals. First of all, it was directed at replicating Campbell and Johnson's 1966 findings with a sample of USU students at Logan, Utah. Secondly, the goal was to explore the possibility that JAPQ job dimension scores will correlate as high or higher than SVIB AACH scores with college students' grade point averages. Thirdly, the study was directed at exploring the possibility that the variable vocational interest, as measured by the JAPQ job dimension scores or the SVIB AACH scale scores will significantly increase the correlation between the independent variables of ACT scores and vocational interest scores and the dependent variable of GPA.

Sample

One hundred college students--36 males and 64 females were administered two Interest Inventories. The sample was voluntarily drawn from the Utah State University student body at Logan, Utah. This university is located in a town of approximately 20,000 people in a rural section of north-eastern Utah. All except seven subjects--five females and two males had completed a minimum of two quarters of freshmen class work at the University. American College Test (ACT) scores were available for 22 males and 46 females in the sample.

Design

Data from the subjects was used in four ways. First the SVIB AACH Scale scores were examined to determine if the correlation between SVIB AACH scores and the students' second quarter and cumulative GPA's were significant, and sufficiently high to use in a prediction equation. Secondly, the JAPQ scores were studied to learn which, if any, job dimension scores were significantly related to the students' cumulative and second quarter GPA's. The third step was to statistically evaluate the correlation coefficients between GPA, the SVIB AACH scores and the JAPQ predicted GPA to determine if the JAPQ predictions were equal to or better than the SVIB predictions. Lastly it was determined if separately adding SVIB and JAPQ job dimension scores as independent variables in a multiple regression equation with ACT scores would significantly improve the prediction of GPA.

Hypotheses

The hypotheses that were tested can be summarized as follows:

1. A significant correlation will exist between SVIB AACH scores and college achievement as measured by second quarter and cumulative GPA.
2. The SVIB correlations will not be significantly different from those found by Campbell and Johnson (1966).
3. Significant correlations will exist between JAPQ job dimension scores and college achievement (GPA).
4. The JAPQ job dimension scores will correlate with GPA at a level significantly equal to or higher than SVIB AACH scores.

5. The JAPQ job dimension scores will contribute to an increase in the multiple r when they are used with ACT scores in a multiple r with GPA as the dependent variable.

6. The SVIB AACH score will contribute to an increase in the multiple r when it is used with ACT scores in a multiple r with GPA as the dependent variable.

The hypotheses in this study were tested at the .05 level of significance.

Data and Instrumentation

In order to test the stated hypotheses, ACT test scores, second quarter and cumulative GPA's were secured for the data analysis.

Two vocational interest assessment instruments were used in this study--the Strong Vocational Interest Blank (SVIB) for men and the Job Activity Preference Questionnaire (JAPQ). These tests were administered in the testing room of the Counseling and Testing division of the University. The tests are not timed and they have adequate instruction in the introduction so the subjects took the tests, at their convenience. The researcher was available to distribute the tests and to give assistance when it was required. The combined testing time for both instruments was a maximum of two hours. The SVIB, for men, was used for both the men and the women in the sample because the men's blank provides a pattern of interests portrayed by college women (Anastasi, 1970).

The subjects were instructed, by the researcher, to complete the tests quickly. Cronback (1960) and Holland and Lutz (1967) state that the first response which comes to the examinee when writing a vocational

interest test is the best assessment of the student's vocational interest. The subjects were also instructed that when responding to the JAPQ, they should not relate to any specific job or occupation for this will bias their responses.

Two cumulative GPA's were computed for each subject. The first GPA was computed for the first two quarters of freshman class work. The second GPA was a cumulative GPA through the completion of the most recent quarter's class work. The experimenter secured written permission from the university provost granting access to the students' transcripts. She also secured the subjects' permission to release their GPA's for research purposes.

The SVIB AACH scores were hand scored. The JAPQ elements were machine scored. Scores were obtained for each of the thirty job dimensions for each subject. (For a description of the job dimensions refer to Table 4 of the appendix.) ACT scores were acquired from the Counseling and Testing Department of the university.

Statistical Analysis

1. To test hypothesis 1 Pearson product moment correlations were calculated for the SVIB AACH Score and the student's cumulative GPA after two quarters of freshman class work and the GPA after the completion of the most recent quarter's class work. A formula was used to test the significance of the correlation coefficient. (The formula is reproduced in Table 5 of the appendix.)

2. To test hypothesis 2 the calculated two-quarter Pearson product moment correlation for hypothesis 1 and Campbell and Johnson's (1966) correlation were used in a formula to test the significance of

difference between two correlation coefficients for independent samples. (The formula is reproduced in Table 5 of the appendix.)

3. To test hypothesis 3 Pearson product moment correlations were calculated for the JAPQ job dimension scores and the student's cumulative GPA after the completion of the most recent quarter's class work. A formula, (Table 5 of the appendix) was used to test the significance of the correlation coefficient.

4. To test hypothesis 4, the correlation coefficients between GPA, the AACH score and the JAPQ predicted GPA were statistically evaluated to determine if the JAPQ predictions were equal to, or better than the SVIB predictions. A formula (Table 4 of the appendix) to test the significant difference between the two correlation coefficients was used.

5. The researcher was unable to secure a correction formula to test hypothesis 5 and 6, but statistical evaluations were made.

- a. To investigate hypothesis 5 a multiple r was calculated using the predicted GPA scores and ACT composite scores to determine if JAPQ predicted scores increase the correlation with GPA.
- b. To investigate hypothesis 6, a multiple r was calculated for SVIB AACH scores and ACT composite scores to determine if the AACH scores increase the correlation with GPA.

CHAPTER IV

RESULTS

For the males in the study, an r of .19 was obtained between the SVIB AACH scores and the 2 Quarter Cumulative GPA (2QCGPA) while an r of .21 was secured between AACH and Undergraduate Cumulative GPA (UCGPA). These results are not significantly different from zero at the .05 level of significance. However, even though the 2QCGPA r of .19 was not significantly different, at the .05 level, from Campbell and Johnson's (1966) cross-validation correlation of .29, it did reach the .10 level of significance.

The SVIB AACH Scores from tested females in the sample secured a correlation, which was insignificant from Campbell and Johnson's study (1966). The correlation was .28 between SVIB AACH scores and 2QCGPA and .31 with the UCGPA. Although such correlations are low, the 2QCGPA was significantly different at the .05 level of significance while the UCGPA was significant beyond the .01 level of significance.

The JAPQ job dimension scores secured higher correlations with cumulative GPA's than did the SVIB AACH scores for both males and females in this study. The corrected multiple correlation coefficient for the males was .43 at the 2QCGPA and .48 for the UCGPA. Respectively a corrected r of .33 and .40 was obtained for the female population. These correlations were significantly different from zero at the .001 level of significance.

The above results are summarized in Table A.

Table A
Pearson Product Moment Correlations Between;
JAPQ and GPA, and SVIB and GPA

Correlations		JAPQ	SVIB	JAPQ	SVIB	Corrected JAPQ GPA*	
		2Q GPAr	2Q GPAr	UC GPAr	UC GPAr	2Q GPAr	UC GPAr
Sex	M	N=34 .75 ***	N=34 .19	N=36 .63 ***	N=36 .21	N=34 .43 ***	N=36 .48 ***
	F	N=59 .60 ***	N=59 .28 **	N=64 .68 ***	N=64 .31 ****	N=59 .33 ***	N=64 .40 ***

*Correlation Coefficient corrected to estimate cross-validation coefficient using Lord and Nickolsen Formula (Herzberg, 1969). (The formula is reproduced in Table 5 of the appendix.)

**Significant at the .05 level of significance.

***Significant at the .005 level of significance.

****Significant at the .01 level of significance.

When comparing the correlations of the 32 job dimension scores with GPA, the tested females in the sample did not exhibit such extreme correlations as did the tested males. The JAPQ correlations for males vary from -.52 to .35 and -.23 to .27 for the females.

These job dimension scores were used in a multiple regression. It was learned that certain job dimension scores (D) were significantly related to the students' 2QCGPA and UCGPA. For the tested males in the study D: 6, 11, 15, 17, 22, 23, 24, 26, and 31 were related to the 2QCGPA while D: 2, 10, 11, 12, 14, 17, 22, 24, and 30 were used in a predictive

equation with UCGPA. When the females in the sample were tested, D: 1, 5, 8, 12, 19, 21, 24, 26, and 32 were used in a predictive equation with 2QCGPA while D: 3, 4, 5, 9, 11, 12, 25, 31, and 32 were used with UCGPA.

The above results are cited in Table 3 of the appendix.

It was found the JAPQD and the SVIBAACH did contribute to an increase in the multiple r when they were used with ACT scores in a multiple r with GPA as the dependent variable. For the 22 males in the sample for which ACT scores were available the D increased the multiple r .55 for the 2QCGPA and .50 for the UCGPA. When the 46 females were tested the D respectively increased the multiple r .01 and .07. The SVIB contributed .05 and .10 for the males and .01 for the females.

The above results are biased because the correlations are not corrected.

These results are summarized in Table B.

Table B

Pearson Product Moment Correlations Between:
GPA, JAPQ and ACT; GPA, SIVB and ACT;
and GPA and ACT

Correlations		GPA	JAPQ + ACT	SVIB + ACT	ACT
	M	2QCGPA	.75*	.25	.20
	M	UCGPA	.63*	.23	.13
	F	2QCGPA	.60*	.60*	.59*
	F	UCGPA	.68*	.62*	.61*

*Significant at the .05 level of significance.

CHAPTER V

DISCUSSION

The major objective of this study was to determine whether JAPQ job dimension scores were equal to or better than SVIB AACH scores for predicting college students' grade point averages.

A secondary objective was to determine if the dimension scores and the SVIB AACH scores contribute significantly to a multiple r composed of ACT scores and GPA.

The results will be discussed in respect to: 1) The hypotheses; 2) Inferences of the 32 JAPQ job dimension correlations with the students' cumulative GPA; 3) Implications of these results for vocational counselors; and 4) Recommendations.

The Hypotheses

The correlations between SVIB AACH scores and college achievement for the males in this study as measured by GPA were lower than Campbell and Johnson's (1966) cross-validation study. However, the female correlations in the present study are similar. Apparently the AACH scale was less discriminative when applied to the males in this sample than when applied to the females in this study.

Significant correlations did exist between the JAPQ job dimension scores and college achievement for both males and females in the study. The results suggest the JAPQ job dimension scores were better predictors of college achievement than were the SVIB AACH scores. (See Table A

of Chapter IV.) However the correlation is more significant at the UCGPA level than at the 2QCGPA. This was probably due to the fact that the students' GPA becomes more stable during his upper division class work.

It has not determined how significantly the JAPQ or SVIB scores contributed to an increase in the multiple r when they were used with ACT scores and with GPA as the dependent variable. The JAPQ scores increased the correlation more than did the SVIB scores, especially with the males of the sample. (Refer to Table B of Chapter IV.) As stated in the results section, these results are biased because the correlations are not corrected.

Inferences of the 32 JAPQ Job Dimension Correlations

When analyzing the individual dimension score correlations with GPA it appears that the males have more extreme scores than the females. This is more evident after the student has been in college for a longer period of time. Since many of the JAPQ items suggest physical activity the assumption can be made that the more he enjoys manual work the lower his GPA. This accounts for the male's extreme negative correlations.

Refer to Table 4 of the appendix for a description of the job dimensions.

Implications of These Results for Vocational Counselors

The results of this study suggest that the JAPQ makes a more accurate assessment of the student's interest for this sample of USU students than does the SVIB as measured by the correlation between vocational interest and GPA. (Refer to Table A of the results section.)

One of the uses of a vocational interest battery is to investigate the vocational interest variables so that the counselor can better understand the student. The underlying assumption is that the better the counselor understands the educational process, the more assistance he can be to the student. The results suggest that the variable interest has predictive power when used to predict the student's GPA.

The JAPQ could prove to be a very valuable tool for vocational counselors. Often students seek the counselor's help when he is doing poorly in school. These students are sometimes failing because they are not academically inclined--they would rather be employed as skilled or semi-skilled laborers. The JAPQ is more appropriate for these individuals than is the SVIB (Refer to Chapter II.) Because it tests for skilled and semi-skilled interest as well as professional and business interest. Also, students are often disgruntled because they are unhappy in the field they are studying. The counselor could help to identify the problem by establishing the student's vocational interest and predicted GPA. By identifying this the counselor could conceivably recommend to the student a more appropriate major, according to his interest.

Recommendations

It is recommended that:

1. Future research be founded on the development of a more attractive JAPQ battery with better face validity. The subjects in the sample did not enjoy seating the test. In some instances the subjects had to be encouraged to complete the battery.

2. Future research should justify the studying of interest patterns as determined by the JAPQ, unique to separate colleges of the university. This could be valuable information for the vocational counselor as well as to the individual when the counselee is selecting a vocation.

3. On the basis of the results of this study and past research, the JAPQ should be considered as a practical tool to be used in pinpointing the student's vocational interest and recommending which area he may succeed in, not only academically, but also vocationally.

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APPENDIX

Table 1
Descriptive Sample Data (a)

Class	Males (N=36)	Females (N=64)
Freshman	1	4
Sophomore	6	12
Junior	4	10
Senior	17	29
Graduate	8	9

Table 2
Descriptive Sample Data (b)

College	Males (N=36)	Females (N=64)
Education	10	28
Science	2	2
Family Life	1	13
Business	8	6
Engineering	7	2
Agriculture	1	0
Humanities	7	12
Natural Resources	0	1

Table 3

Pearson Product Moment Correlations Between JAPQ D Scores and GPA

JAPQ D	Males		Females	
	GPA2 N=34	UCGPA N=36	GPA2 N=59	UCGPA N=64
D- 1	-0.03196	-0.13810	-0.08784	-0.03602
D- 2	-0.16577	-0.21970	0.15783	-0.04931
D- 3	0.11003	0.19947	0.12181	0.19765
D- 4	0.09431	0.08471	0.10687	0.22637
D- 5	0.06809	-0.96334	-0.19920	-0.23624
D- 6	-0.04228	-0.09074	-0.08746	-0.05206
D- 7	0.05176	-0.19410	0.03565	-0.09518
D- 8	0.12016	0.21620	0.04381	0.07738
D- 9	-0.10513	-0.08689	0.07296	0.11401
D-10	0.12906	0.22456	0.03485	0.01180
D-11	-0.31086	-0.44877	0.27666	0.23777
D-12	-0.25763	-0.52278	0.16729	0.14943
D-13	0.07684	-0.23192	0.06130	0.03289
D-14	-0.16349	-0.28335	-0.00523	-0.02770
D-15	-0.29407	-0.17837	0.05082	0.08246
D-16	-0.03971	-0.19053	0.16186	0.05934
D-17	0.22162	0.35344	0.12303	0.10651
D-18	-0.01669	-0.27946	0.12208	0.00313
D-19	-0.23305	-0.21450	-0.15061	-0.09021
D-20	0.08402	0.04765	0.01977	-0.00635
D-21	-0.15822	-0.25270	-0.06308	-0.11966
D-22	-0.01488	-0.31216	0.03331	0.07314
D-23	-0.07882	-0.05373	-0.09693	0.00614
D-24	0.31746	0.23818	0.00680	-0.03941
D-25	-0.11756	-0.08672	0.09969	0.17801
D-26	-0.11163	-0.27844	0.02891	-0.04238
D-27	-0.24736	-0.28370	0.20940	0.11919
D-28	0.12594	0.14996	0.09683	0.13846
D-29	-0.13210	-0.18954	0.14012	0.06510
D-30	-0.09246	-0.42896	0.11009	0.10736
D-31	-0.03613	-0.10094	-0.12304	-0.17356
D-32	-0.02164	-0.19737	-0.01587	-0.06862

Table 4

Description of the 32 JAPQ Job Dimensions

Division Job Dimensions

- D- 1 Watching Devices or Materials For Information
- D- 2 Interpreting What is Heard or Seen
- D- 3 Using Data Originating With People
- D- 4 Watching Things From a Distance
- D- 5 Evaluating Information From Things
- D- 6 Being Aware of Environmental Conditions
- D- 7 Being Aware of Body Movement and Balance
- D- 8 Making Decisions
- D- 9 Processing Information
- D-10 Controlling Machines or Processes
- D-11 Using Hands and Arms to Control or Modify
- D-12 Using Feet or Hands to Operate Equipment or Vehicles
- D-13 Performing Activities Requiring General Body Movement
- D-14 Using Hands and Arms to Move or Position Things
- D-15 Using Fingers Versus General Body Movement
- D-16 Performing Skilled or Technical Activities
- D-17 Communicating Judgments, Decisions, Information
- D-18 Exchanging Job-Related Information
- D-19 Performing Staff or Related Activities
- D-20 Contacting Supervisor or Subordinates
- D-21 Dealing With the Public
- D-22 Being in a Hazardous or Unpleasant Environment
- D-23 Engaging in Personally Demanding Situations
- D-24 Engaging in Businesslike Work Situations
- D-25 Being Alert to Detail or Changing Conditions
- D-26 Performing Unstructured Versus Structured Work
- D-27 Working on a Variable Versus Regular Schedule

Overall Job Dimensions

- D-28 Having Decision Making, Communication, and Social Responsibilities
 - D-29 Performing Skilled Activities
 - D-30 Being Physically Active or Related Environmental Conditions
 - D-31 Operating Equipment or Vehicles
 - D-32 Processing Information
-

Table 5

Formulas Used in This Study

-
1. Formula to test the significance of the difference between two correlation coefficients for independent samples (Ferguson, 1966, p. 188).

$$Z = \frac{z_r^1 - z_r^2}{\sqrt{1/(N_1-3) + 1/(N_2-3)}}$$

2. Formula to test the difference between two correlation coefficients for correlated samples (Ferguson, 1966, p. 189).

$$t = \frac{(r_{12} - r_{13}) \sqrt{(N-3)(1+r_{23})}}{\sqrt{2(1-r_{12}^2-r_{13}^2-r_{23}^2) + 24r_{12}r_{13}r_{23}}}$$

3. Formula to test the significance of a correlation coefficient (Ferguson, 1966, p. 187).

$$t = \frac{r \sqrt{N-2}}{1-r^2}$$

4. Formula to estimate cross-validation coefficient (Herzberg, 1969, p. 4).

$$\text{Est}(p_c^2) = 1 - \frac{N-1}{N-n-1} \frac{N+n+1}{N} (1-r^2)$$

- p_c^2 = population correlation coefficient
 N = number in sample
 n = number of predictors
-

Job Activity Preference Questionnaire (JAPQ)

(The JAPQ is an interest inventory that provides for the expression of interests in the job elements of the Position Analysis Questionnaire, which is a structured job analysis instrument.)

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The purpose of this questionnaire is to obtain a measure of your job interests or preferences. Each individual has different interests, so there are no right or wrong answers. Simply mark what applies to you.

The questionnaire is divided into 9 sections, each of the sections containing a listing of work activities or situations. For each section there is a rating scale that you are to use in rating how much you would want each of the work activities or situations to be a part of a job that you might sometime have.

In rating the work activities and situations, do not attempt to relate your responses directly to any specific job or occupation. Rather, consider each item separately, and indicate the level of your interest in the activity or situation as a part of any job that you might consider. As you rate each work activity or situation, assume that an opportunity would be available for you to get any required education or training.

PERSONAL DATA

Last Name			First Name			Middle Name			Social Security Number			Age		
Employer, if presently employed									Occupation, if employed					
Name _____														
City _____ State _____														
Education (Check One)									Vocational, technical, or related training (Number of months)					
8 or less years		Some high school		High school grad.		Some college		College degree		Advanced degree				
<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>		<input type="text"/>		
School or College, if presently a student									Today's Date					
Name _____														
City _____ State _____														
Your Address									Sex (Check One)					
City _____ State _____									Male		Female			
									<input type="checkbox"/>		<input type="checkbox"/>			

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SECTION 1

Information is needed to perform any type of work, and that information can come from many different sources. Use the numbers from 0 to 5 on the rating scale to mark how much you would like to use or engage in each of the following activities to get the "information" needed in your work. Place the scale value that you choose in the space provided beside each question.

Rating Scale

- 0 None
- 1 Very limited
- 2 Limited
- 3 Moderate
- 4 Considerable
- 5 Very extensive

Example

5 1. Reading (books, reports, office notes, job instructions, etc.)

A "5" has been marked in this example. This indicates that "very extensive" reading as a source of job information is desired.

- 1. Reading (books, reports, office notes, job instructions, etc.)
- 2. Using numerical materials (graphs, accounts, specifications, etc.)
- 3. Using graphic materials (pictures, drawings, blueprints, diagrams, maps, tracings, X-ray films, TV pictures, etc.)
- 4. Using patterns and related devices (stencils, patterns, templates, etc.)
- 5. Using visual displays (dials, gauges, signal lights, radar scopes, speedometers, clocks, etc.)
- 6. Using measuring devices (rulers, calipers, tire pressure gauges, scales, thermometers, etc.)
- 7. Observing and listening to mechanical devices in use (tools, equipment, machinery, etc.)
- 8. Observing things you are working with (materials, parts or objects, such as bread dough being mixed, wood being cut, metal being welded, boxes being inventoried, items being inspected, etc.)
- 9. Observing features of nature (landscapes, fields, geological samples, plants, cloud formations, or other features of nature)
- 10. Observing or inspecting man-made features of the environment (buildings, dams, highways, bridges, docks, railroads, etc.)
- 11. Observing the behavior of people or animals
- 12. Observing the events or circumstances around you (flow of traffic, movement of materials, airport control tower operations, etc.)
- 13. Viewing art, decorations, etc. (paintings, sculpture, jewelry, window displays, etc.)
- 14. Listening to spoken information (instructions, conversations, interviews, meetings, discussions, etc.)
- 15. Listening to sounds (non-verbal)
- 16. Touching
- 17. Smelling
- 18. Tasting

te how important you would like each of the following abilities and activities to be in ur work. Again use the numbers 0 to 5.

- | Rating Scale | |
|--------------|--------------------|
| 0 | No importance |
| 1 | Very minor |
| 2 | Low |
| 3 | Average |
| 4 | High |
| 5 | Extreme importance |
19. Using distance vision (watching things at distances beyond arm's reach)
 20. Using depth perception (judging the distance from yourself to an object, or the distance between objects, as in running a crane, operating a dentist's drill, etc.)
 21. Using color perception (telling the difference between things by color)
 22. Recognizing sound patterns (Morse code, heart beats, engine not running properly, etc.)
 23. Recognizing sounds by loudness, pitch or tone quality (tuning pianos, repairing sound systems, etc.)
 24. Body movement sensing (detecting changes in the direction or speed at which you are moving, without using sight or hearing, as in flying aircraft, working in a submarine, etc.)
 25. Body balancing (walking on steel beams, climbing high poles, working on steep roofs, etc.)
 26. Judging condition or quality (antique dealer, appraiser, jeweler, used car dealer, coin dealer, etc.)
 27. Inspecting (grading or finding defects)
 28. Estimating speed of moving parts (the revolutions per minute of a motor, the speed at which a lathe turns, etc.)
 29. Estimating speed of moving objects (the speed of vehicles, speed of materials moving on a conveyor belt, etc.)
 30. Estimating speed of processes (chemical reactions, assembly operations, timing of food preparation, etc.)
 31. Estimating quantity (number of board feet of lumber in a log, the weight of a horse, the number of bacteria in an area by looking through a microscope, etc.)
 32. Estimating size (height of a tree, measurements of a box, etc.)
 33. Estimating time (time to make a delivery, to service a piece of equipment, etc.)
 34. Combining information (weatherman using different pieces of information to prepare a weather report, pilot using different bits of information to fly his plane, etc.)
 35. Analyzing information (interpreting financial reports, determining why an automobile engine will not run, diagnosing an illness, etc.)
 36. Gathering, grouping, or classifying information (preparing reports, filing correspondence, etc.)
 37. Coding or decoding (reading Morse code, translating foreign languages, shorthand, etc.)
 38. Setting up or adjusting equipment (setting up a lathe or drill press, adjusting an engine carburetor, etc.)
 39. Using hands directly to change things (using the hands directly to change or alter or to modify people, materials, products, etc.)

Rating Scale	
0	No importance
1	Very minor
2	Low
3	Average
4	High
5	Extreme importance

- | | |
|-----|--|
| 40. | Controlling or guiding materials being processed (operating a sewing machine, operating a jig saw, etc.) |
| 41. | Assembling or disassembling (putting parts together to form a complete item, or taking an item apart) |
| 42. | Arranging or positioning (placing objects, materials, persons, animals, etc., in a specific position or arrangement) |
| 43. | Physically handling objects, materials, animals, human beings, etc. (loading or unloading trucks, farming activities, taking care of babies in a nursery, etc.) |
| 44. | Highly skilled body coordination activities (athletics, dancing, etc.) |
| 45. | Finger manipulation (making careful finger movements in various types of activities, such as in the use of precision tools, repairing watches, playing the piano, etc.) |
| 46. | Feeding/off-bearing (feeding materials into a machine or removing materials from a machine or piece of processing equipment) |
| 47. | Hand-arm manipulation (activities involving hand and arm movements, as might be used in repairing automobiles, packaging products, etc.) |
| 48. | Hand-arm steadiness (<u>steady</u> hand and arm movements, as might be necessary in using a welding torch or in performing surgery, etc.) |
| 49. | Eye-hand/foot coordination (the coordination of hand and/or foot movements with what is seen) |
| 50. | Limb movement without visual control (movement of body limbs from one position to another without the use of vision) |
| 51. | Hand-ear coordination (the coordination of hand movements with sounds or instructions that are heard) |
| 52. | Advising (using legal, financial, scientific, technical, clinical, spiritual, or other professional principles to counsel or guide individuals) |
| 53. | Negotiating (dealing with others to reach an agreement or solution, for example, labor bargaining, diplomatic relations, etc.) |
| 54. | Persuading (influencing others, as in selling or political campaigning) |
| 55. | Teaching |
| 56. | Interviewing |
| 57. | Exchanging routine information (giving and receiving routine information as might be done by a ticket agent, taxi-cab dispatcher, etc.) |
| 58. | Exchanging specialized information (giving and receiving specialized information, as might be done in a professional committee meeting, or as engineers might do when discussing a product design, etc.) |
| 59. | Public speaking |
| 60. | Writing (letters, reports, newspaper articles, etc.) |
| 61. | Signaling (hand signals, semaphore, whistles, horns, bells, lights, etc.) |
| 62. | Code communications (telegraph, cryptography, shorthand, etc.) |
| 63. | Entertaining (performing to amuse or entertain others) |

64. Serving or catering (performing personal services, or attending to the needs of others, for example, waiting on tables, hairdressing, etc.)
65. Supervising non-employees (students, patients, campers, etc.)
66. Coordinating activities (social director, committee chairman, etc.)
67. Serving as a staff member (advising, consulting, and giving other types of assistance to management personnel, for example, legal adviser, accountant, etc.)

<u>Rating Scale</u>	
0	No importance
1	Very minor
2	Low
3	Average
4	High
5	Extreme importance

SECTION 3

Different jobs require you to associate with different types of individuals. How important would you want personal contact with the following types of individuals to be? Continue using the same rating scale.

68. Executives or officials (government administrators, corporation vice-presidents, plant superintendents, etc.)
69. Middle management (division or district managers)
70. Supervisors (foremen, office managers, etc.)
71. Professional personnel (doctors, lawyers, scientists, engineers, professors, teachers, etc.)
72. Semi-professional personnel (technicians, draftsmen, designers, photographers, surveyors, etc.)
73. Personnel engaged in office work (clerks, bookkeepers, receptionists, etc.)
74. Purchasing agents (individuals who buy for companies)
75. Customers (as in stores or restaurants)
76. The public generally (such as police officers, park attendants, etc., might come in contact with)
77. Students, trainees, or apprentices
78. Clients, patients, or individuals being counseled
79. Special interest groups (stockholders, property owners, lobbyists, etc.)
80. Sales personnel
81. Skilled and unskilled workers

<u>Rating Scale</u>	
0	No importance
1	Very minor
2	Low
3	Average
4	High
5	Extreme importance

SECTION 4

Following are five job situations or circumstances. Use the numbers from 0 to 5 to indicate how much of each you would be willing to accept in your work.

82. Frustrating situations (situations in which you would become frustrated because your attempts to do something might be hindered or obstructed)

83. Unpleasant personal contacts (some types of police work, handling certain mental patients, etc.)

84. Personal sacrifice in the service of others (as might be required by a policeman, minister of religion, social worker, etc.)

85. Disagreements or conflict situations (as might be involved in labor negotiations, enforcement of an unpopular policy, etc.)

86. Distractions (telephone calls, interruptions and disturbances from others, etc.)

Rating Scale	
0	None
1	Very little
2	Little
3	Moderate amount
4	Considerable
5	Large amount

SECTION 5

Use the numbers from 0 to 5 to indicate how much you would like to use each of the following devices or pieces of equipment in your work.

87. Precision hand tools (engraver's tools, watchmaker's tools, surgical instruments, etc.)

88. Other hand tools (hammers, wrenches, knives, scissors, etc.)

89. Long-handle tools (hoes, rakes, shovels, picks, axes, brooms, etc.)

90. Handling devices or tools (tongs, ladles, dippers, forceps, etc., used for moving or handling objects and materials)

91. Hand-held precision power tools (dentist drills, welding equipment, etc.)

92. Other hand-held power tools (ordinary power saws, drills, sanders, clippers, etc.)

93. Writing and drawing instruments (pens, pencils, artist's brushes, drafting equipment, etc.)

94. Applicators (brushes, rags, paint rollers, used in applying solutions, materials, etc.)

95. Technical devices (cameras, stopwatches, slide rules, etc.)

96. Processing machines and equipment (used to process or modify parts, objects, materials, etc.)

97. Controls: used continuously (controls requiring continuous adjustment or manipulation, for example, accelerator, steering wheel, etc.)

98. Controls: not used continuously (controls used to start or stop, to set positions on a machine, etc.)

Rating Scale	
0	None
1	Very limited
2	Limited
3	Moderate
4	Considerable
5	Very extensive

99. Keyboard devices (pianos, typewriters, adding machines, etc.)
100. Highway or rail vehicles (automobiles, trucks, buses, trains, etc.)
101. Powered mobile equipment (fork lifts, self-propelled lawn mowers, road graders, tractors, etc.)
102. Powered water vehicles (ships, submarines, motor boats, etc.)
103. Air or space vehicles (planes, helicopters, balloons, gliders, rocket-ships, etc.)
104. Man-moved mobile equipment (hand-pushed lawn mowers, wheel barrows, floor polishers, etc.)
105. Operating equipment (cranes, hoists, elevators, etc.)
106. Remote-controlled equipment (conveyor systems, etc.)

Rating Scale

- 0 None
 1 Very limited
 2 Limited
 3 Moderate
 4 Considerable
 5 Very extensive

SECTION 6

Use the numbers from 0 to 5 to indicate how much of your working time you would be willing to spend in the following activities or under the following circumstances.

107. Sitting
108. Standing
109. Walking or running
110. Climbing (for example, house painter, telephone lineman, etc.)
111. Kneeling or stooping (or other body positions which may be uncomfortable or awkward)
112. Working indoors in high temperatures (conditions in which you may be uncomfortable, such as in boiler rooms, around furnaces, etc.)
113. Working indoors in low temperatures (conditions in which you would be definitely cold even though you wore heavy clothing, such as in refrigerated rooms, etc.)
114. Working outdoors (under different weather conditions)
115. Working in contaminated air (dust, fumes, smoke, bad odors, etc.)
116. Working with vibrating equipment (equipment that vibrates the whole body or body limbs (driving a tractor or truck, operating an air hammer, etc.)
117. Working under poor lighting conditions (not enough light, excessive glare, etc.)

Rating Scale

- 0 None
 1 Under 1/10 of the time
 2 Between 1/10 and 1/3 of the time
 3 Between 1/3 and 2/3 of the time
 4 Over 2/3 of the time
 5 Almost continually

118. Working under dirty conditions (garages, foundries, coal mines, highway construction, furnace cleaning, etc.)
119. Working in awkward or small work spaces (conditions in which the body is cramped or uncomfortable)
120. Traveling

Rating Scale

- 0 None
 1 Under 1/10 of the time
 2 Between 1/10 and 1/3 of the time
 3 Between 1/3 and 2/3 of the time
 4 Over 2/3 of the time
 5 Almost continually

SECTION 7

Below are descriptions of 4 degrees of injury, ranging from minor to very serious. Use the numbers from 0 to 5 to indicate the "risk" (or the possibility) of each occurring that you would be willing to accept as a part of your work.

121. Minor injury or illness which might result in a day or less of lost time
122. Injury or illness which would prevent work for one full day or more, but which would not have any permanent effects
123. Permanent injury or illness (resulting in the loss of an arm, leg, hearing, sight of one eye, etc.)
124. Permanent total disability or death (injury or illness which would result in disability for life, or in death)

Rating Scale

- 0 No possibility
 1 Very limited possibility
 2 Limited possibility
 3 Moderate possibility
 4 Fairly high possibility
 5 High possibility

SECTION 8

Following is a list of job requirements. Use the numbers from 0 to 5 to rate how much you would want each to be a part of your work.

125. A set specified rate of work (assembly line, etc.)
126. Repetitive activities (repeating the same activity, without interruption, for periods of time)
127. Cycled work activities (working according to a schedule which repeats weekly, daily, or hourly, such as a postman or milkman making his rounds, a guard patrolling his beat, etc.)
128. Precision (need to be more than normally precise and accurate)
129. Attention to detail
130. Recognition (need to identify certain objects, events, processes, behavior, etc.)

Rating Scale

- 0 None (No part)
 1 Very limited
 2 Limited
 3 Moderate
 4 Considerable
 5 Very extensive

Rating Scale	
0	None (No part)
1	Very limited
2	Limited
3	Moderate
4	Considerable
5	Very extensive

131. Vigilance (need to be constantly alert and aware of any changes in a situation)
132. Need to keep job knowledge current (continually learning new developments related to the job)

SECTION 9

Select one of the responses for each of the following questions.

133. Competition: How important would you want competition with other individuals or groups to be in your work (for such things as promotions, financial rewards, recognition, etc.)
1. Very minor importance
 2. Minor importance
 3. Moderate importance
 4. High importance
 5. Extreme importance
134. Decision making level: What level of decisions would you want to make in your work?
1. Low level decisions (such as must be made in pasting labels on cartons, putting items on shelves in a warehouse, etc.)
 2. Below average level decisions (such as those made in running a wood planer, greasing a car, or dispatching a taxi)
 3. Average level decisions (such as in ordering office supplies several months in advance, determining what is wrong with an automobile engine, setting up machine tools for operation, etc.)
 4. Above average level decisions (such as deciding who will be promoted, who will be hired or fired, if property will be purchased, etc.)
 5. High level decisions (such as recommending major surgery, selecting the location for a new plant, or approving a corporation's annual budget)
135. Reasoning in problem solving: Which of the following reasoning levels would you want your work to require?
1. Low (use of common sense to carry out uninvolved instructions, as might be done by a janitor or a deliveryman)
 2. Below average (use of some experience or training, such as a sales clerk, a postman, a keypunch operator or an electrician's apprentice might use)
 3. Average (use of principles to solve practical problems, such as might be required in farming, drafting or carpentry)
 4. Above average (use of logic or scientific thinking, as might be used by a mechanical engineer, a personnel director, or the manager of a store, etc.)
 5. High (use of principles of logic or scientific thinking to solve a wide range of problems, as might be done by a research chemist, a nuclear engineer, a corporate president, or the manager of a large plant)

136. Amount of planning: How much planning or scheduling would you like to do in your work?
0. None
 1. Very little (little planning of your own activities, as in selling tickets at a theater, working on an assembly line, etc.)
 2. Little (some planning required, but not a great deal, as in delivering milk, working as a janitor, etc.)
 3. Average amount (for example, a carpenter who must plan the best way to build a house, the planning that must be done by a taxi dispatcher, etc.)
 4. Considerable (for example, a foreman who must plan what his workers must do, a teacher who must prepare lectures or lesson plans, etc.)
 5. Large amount (for example, a department store manager, an executive who must plan the activities of different work groups, an architect, etc.)
137. Education: How much education would you want your work to require?
0. Little or none
 1. Less than high school
 2. High school diploma
 3. Some college education
 4. College degree
 5. Advanced degree (M.S., Ph.D., M.D., L.L.D., etc.)
138. Training: How much training, other than the education in number 124, would you want your work to require? Consider such things as on-the-job training, apprentice training, technical and vocational schools, and orientation training.
0. 1 day or less
 1. Over 1 day up to 1 month
 2. Between 1 and 6 months
 3. Between 6 months and 1 year
 4. Between 1 and 3 years
 5. Over 3 years
139. Experience: How much experience in related or lower-level jobs would you like your work to require?
1. Less than 1 month
 2. Less than 1 year
 3. Between 1 and 3 years
 4. Between 3 and 5 years
 5. Over 5 years
140. Level of mathematics: What is the highest level of mathematics you would want your job to require?
0. None
 1. Simple counting, addition and subtraction of numbers smaller than 100
 2. Addition and subtraction of numbers up to 1,000, and some multiplication and division
 3. Use of fractions, decimals, percentages
 4. Use of algebra, geometry, trigonometry, or statistics
 5. Advanced use of calculus, topology, vector analysis, factor analysis, probability theory, etc.

141. Physical exertion: How much physical effort would you want your work to require?
1. Very light (occasional walking or standing, occasionally moving light objects, as might be required of a secretary, watchmaker, telephone operator, etc.)
 2. Light (frequently walking or standing and often exerting effort equal to that which would be required to lift between 10 and 20 pounds, as might be done by a sales clerk, bank teller, etc.)
 3. Moderate (frequently exerting effort equal to that which would be required to lift between 25 and 50 pounds, for example, auto mechanic, coin vending machine serviceman, bus driver, etc.)
 4. Heavy (lifting between 50 and 100 pounds, for example, general laborer, bulldozer operator, baggage porter, etc.)
 5. Very heavy (frequently using enough effort to lift 50 pounds, and occasionally using enough effort to lift over 100 pounds, for example, quarry mining, setting up concrete forms, etc.)
142. Supervision given: How many workers would you want to directly supervise?
0. None
 1. 1 or 2 workers
 2. 3 to 5 workers
 3. 6 to 8 workers
 4. 9 to 12 workers
 5. 13 or more workers
143. Personnel responsibility: How many personnel would you want to be responsible for in your work? As an example, a president of a corporation would be responsible for everyone who worked for the corporation.
0. None
 1. 10 or fewer workers
 2. 11 to 50 workers
 3. 51 to 250 workers
 4. 251 to 750 workers
 5. 751 or more workers
144. Safety responsibility: How much responsibility for the safety of others would you be willing to assume in your work?
0. None
 1. Little (working only with small hand tools, machines that are not dangerous, etc.)
 2. Limited (responsible to exercise only reasonable care)
 3. Intermediate (must be careful to avoid hurting others, as in operating overhead cranes, driving vehicles, etc.)
 4. Substantial (must constantly be careful not to injure others, as in handling dangerous chemicals or explosives, etc.)
 5. Very substantial (the safety of others would depend entirely upon you, as in piloting the aircraft, performing major surgery, etc.)
145. Property responsibility: How much property would you be willing to assume responsibility for?
1. Very little (a few dollars worth)
 2. Little (\$50.00 to \$500.00 worth)
 3. Moderate amount (\$501.00 to \$5,000.00 worth)
 4. Substantial amount (\$5,001.00 to \$25,000.00 worth)
 5. Very substantial amount (more than \$25,000.00 worth)

146. General responsibility: How much general responsibility would you want in your work?
1. Very little
 2. Little
 3. Average amount
 4. Substantial
 5. Very substantial
147. Supervision received: How much supervision would you want to receive in your work?
1. Close supervision, including job assignments and close observation of work
 2. General supervision
 3. General guidance, but quite independent of others
 4. Very little direction or guidance
 5. No supervision
148. Job structure: To what extent would you want to follow a routine, or have your work outlined for you?
1. Almost no change from a predetermined job routine (working on an assembly line, etc.)
 2. Little change from the work routine possible (bookkeeping, stocking items in a warehouse, etc.)
 3. Certain work must be done, but you can determine your own schedule or routine (carpenter, automobile mechanic, machinist, etc.)
 4. Little routine work (most of the decisions made by you, for example, store manager, industrial engineer, etc.)
 5. No routine (a wide variety of problems must be dealt with, and you would determine your own solutions, for example, corporation vice-president, research chemist, etc.)
149. Criticality of position: Some positions in a company are especially critical. If not filled properly, such things as the company's earnings or reputation might seriously suffer. With this in mind, what degree of criticality would you want your job or position to have?
1. Very low
 2. Low
 3. Moderate
 4. High
 5. Very high
150. Civic obligations: How important would you want civic obligations to be in your work (serving on zoning boards, helping with United Fund drives, assisting with school activities, etc.)
0. No importance
 1. Very minor
 2. Low
 3. Average
 4. High
 5. Extreme importance

STRONG VOCATIONAL INTEREST BLANK FOR MEN

by EDWARD K. STRONG, JR.

Revised by

Edward K. Strong, Jr.
Stanford University

David P. Campbell
University of Minnesota

Ralph F. Berdie
University of Minnesota

Kenneth E. Clark
University of Rochester

It is possible with a fair degree of accuracy to determine by this inventory whether or not you would like certain occupations. This is not a test of intelligence or special abilities. It does measure the extent to which your interests agree or disagree with those of successful men in a given occupation.

Some of your instructions for completing this inventory may be given orally; pay close attention. Then read the following directions carefully:

1. With this question booklet, you should have a **special answer sheet or cards** on which to record your responses. **Make no marks at all on this booklet;** it will be used again by other people.
2. There are 399 items, or questions, in this booklet. Be sure there are spaces for only 399 items on your answer sheet or cards. (Older answer sheets had 400 question spaces; they should not be used with this booklet.)
3. If you have been given a special pencil, use it. If not, mark with any soft, black, lead pencil. **Make a heavy, dark mark**—not a cross or check mark.
4. If you make a mistake or change your mind, **erase carefully and thoroughly.** Do not fold or crease your answer sheet in any way.
5. **You should make one mark for each of the 399 questions.** If you omit items, or make more than one mark, your test cannot be scored. If you are not familiar with a particular item, guess how you might feel about it and mark accordingly.
6. The instructions change somewhat from part to part; read the instructions for each part carefully.
7. Read the instructions on your answer sheet or card. And be sure to fill in your name and the other information requested on your answer sheet or card. In some cases, it is necessary to code your name by marking spots representing each letter.
8. Work quickly; first impressions usually give the best results with this inventory.

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Part I. Occupations. For each occupation listed below, indicate whether you would like that kind of work or not. Don't worry about whether you would be good at the job or about your lack of training for it. Forget about how much money you could make or whether you could get ahead in it. Think only about whether you would like the work done in that job.

Mark on the answer sheet in the space labeled "L" if you **like** that kind of work.

Mark in the space labeled "I" if you are **indifferent** (that is, don't care one way or another).

Mark in the space labeled "D" if you **dislike** that kind of work.

Work fast. Put down the first thing that comes to mind. Answer every one.

- | | |
|-----------------------------------|---------------------------------|
| 1 Actor | 51 Lawyer, Criminal |
| 2 Advertising Man | 52 Lawyer, Corporation |
| 3 Architect | 53 Librarian |
| 4 Military Officer | 54 Life Insurance Salesman |
| 5 Artist | 55 Locomotive Engineer |
| 6 Astronomer | 56 Machinist |
| 7 Athletic Director | 57 Magazine Writer |
| 8 Auctioneer | 58 Manufacturer |
| 9 Author of novel | 59 High School Principal |
| 10 Author of technical book | 60 Professional Baseball Player |
| 11 Auto Salesman | 61 Mining Superintendent |
| 12 Auto Racer | 62 Musician |
| 13 Auto Mechanic | 63 Music Teacher |
| 14 Airplane Pilot | 64 Psychologist |
| 15 Bank Teller | 65 Office Manager |
| 16 Designer, Electronic Equipment | 66 Orchestra Conductor |
| 17 Building Contractor | 67 Pharmacist |
| 18 Buyer of merchandise | 68 Public Relations Man |
| 19 Carpenter | 69 Physician |
| 20 Cartoonist | 70 Playground Director |
| 21 Cashier in bank | 71 Poet |
| 22 Electronics Technician | 72 Politician |
| 23 Chemist | 73 Printer |
| 24 Civil Engineer | 74 Private Secretary |
| 25 City or State Employee | 75 Radio Announcer |
| 26 Minister, Priest, or Rabbi | 76 Rancher |
| 27 College Professor | 77 Real Estate Salesman |
| 28 Foreign Service Man | 78 Reporter, General |
| 29 Dentist | 79 Reporter, Sports page |
| 30 Draftsman | 80 Retailer |
| 31 Editor | 81 Sales Manager |
| 32 Electrical Engineer | 82 School Teacher |
| 33 Employment Manager | 83 Scientific Research Worker |
| 34 Geologist | 84 Sculptor |
| 35 Factory Manager | 85 Manager, Chamber of Commerce |
| 36 Income Tax Accountant | 86 Secret Service Man |
| 37 Farmer | 87 Computer Operator |
| 38 Labor Union Official | 88 Shop Foreman |
| 39 Art Museum Director | 89 Social Worker |
| 40 Foreign Correspondent | 90 Specialty Salesman |
| 41 Governor of a State | 91 Statistician |
| 42 Hotel Manager | 92 Stockbroker |
| 43 Interior Decorator | 93 Surgeon |
| 44 Interpreter | 94 Toolmaker |
| 45 Inventor | 95 Traveling Salesman |
| 46 Photographer | 96 Travel Bureau Manager |
| 47 Judge | 97 Funeral Director |
| 48 Labor Arbitrator | 98 Watchmaker |
| 49 Laboratory Technician | 99 Wholesaler |
| 50 Landscape Gardener | 100 Worker in Y.M.C.A. |

Part II. School Subjects. Show as you did in Part I your interest in these school subjects, even though you may not have studied them.

- 101 Algebra
- 102 Agriculture
- 103 Arithmetic
- 104 Art
- 105 Bookkeeping
- 106 Botany
- 107 Calculus
- 108 Chemistry
- 109 Civics (government)
- 110 Dramatics
- 111 Economics
- 112 English Composition
- 113 Geography
- 114 Geology
- 115 Geometry
- 116 History
- 117 Languages, ancient
- 118 Languages, modern
- 119 Literature
- 120 Mathematics
- 121 Industrial Arts
- 122 Mechanical Drawing
- 123 Military Drill
- 124 Bible History
- 125 Nature Study
- 126 Philosophy
- 127 Physical Education
- 128 Physics
- 129 Psychology
- 130 Physiology
- 131 Public Speaking
- 132 Shop Work
- 133 Sociology
- 134 Spelling
- 135 Typewriting
- 136 Zoology

Part III. Amusements. Show in the same way as you did before whether or not you like these ways of having fun. Work rapidly. Do not think over various possibilities. Record your first feeling of liking, indifference, or disliking.

- 137 Golf
- 138 Fishing
- 139 Hunting
- 140 Tennis
- 141 Sketching pictures of wild animals
- 142 Hiking
- 143 Boxing
- 144 Chess
- 145 Poker
- 146 Bridge
- 147 Bird watching
- 148 Solving mechanical puzzles
- 149 Religious music
- 150 Camping out
- 151 Drilling in a military company
- 152 Playing the piano
- 153 Amusement parks
- 154 Picnics
- 155 Sight-seeing trips
- 156 Stag parties
- 157 Jazz concerts
- 158 Conventions
- 159 Formal dress affairs
- 160 Electioneering for office
- 161 Going to church
- 162 Horseback riding
- 163 Art galleries
- 164 Leading a Boy Scout troop
- 165 Writing a one-act play
- 166 Science fiction magazines
- 167 Symphony concerts
- 168 Night clubs
- 169 Church young people's group
- 170 Biographies
- 171 Sports pages in newspapers
- 172 Poetry
- 173 Detective stories
- 174 Skiing
- 175 Planning a large party
- 176 Telling jokes
- 177 Business methods magazines
- 178 Travel magazines
- 179 Weekly news magazines
- 180 Popular mechanics magazines
- 181 Reading the Bible
- 182 Educational movies or TV
- 183 Magazines about art and music
- 184 Social problem movies
- 185 Making a radio or hi-fi set

Part IV. Activities. Indicate your interests as before.

- 186 Repairing a clock
- 187 Adjusting a carburetor
- 188 Repairing electrical wiring
- 189 Cabinetmaking
- 190 Operating machinery
- 191 Handling horses
- 192 Giving "first-aid" assistance
- 193 Raising flowers and vegetables
- 194 Decorating a room with flowers
- 195 Arguments
- 196 Interviewing men for a job
- 197 Interviewing prospects in selling
- 198 Interviewing clients
- 199 Making a speech
- 200 Organizing a play
- 201 Starting a conversation with a stranger
- 202 Teaching children
- 203 Teaching adults
- 204 Calling friends by nicknames
- 205 Being called by a nickname
- 206 Meeting and directing people
- 207 Taking responsibility
- 208 Making statistical charts
- 209 Adjusting difficulties of others
- 210 Drilling soldiers
- 211 Pursuing bandits in a sheriff's posse
- 212 Doing research work
- 213 Acting as cheer-leader
- 214 Being a forest ranger
- 215 Writing reports
- 216 Looking at things in a hardware store
- 217 Bargaining ("swapping")
- 218 Looking at things in a clothing store
- 219 Buying merchandise for a store
- 220 Displaying merchandise in a store
- 221 Expressing opinions openly, regardless of what others say
- 222 Competitive activities
- 223 Methodical work
- 224 Regular hours for work
- 225 Continually changing activities
- 226 Developing business systems
- 227 Saving money
- 228 Contributing to charities
- 229 Raising money for a charity
- 230 Living in the city
- 231 Climbing along the edge of a precipice
- 232 Discussing the purpose of life
- 233 Looking at a collection of antique furniture

Part V. Types of People. Show your feeling about these different kinds of people. Do not think of various possibilities or of exceptional cases. "Let yourself go" and record the feeling that comes to mind as you read each item.

- 234 Progressive people
- 235 Conservative people
- 236 Energetic people
- 237 Military men
- 238 Aggressive people
- 239 Beachcombers
- 240 Optimists
- 241 Pessimists
- 242 People who are natural leaders
- 243 People who assume leadership
- 244 Ballet dancers
- 245 People who have made fortunes in business
- 246 Emotional people
- 247 Thrifty people
- 248 Spendthrifts
- 249 Famous chefs
- 250 Religious people
- 251 Irreligious people
- 252 Easygoing people
- 253 Artistic men
- 254 Public opinion interviewers
- 255 Foreigners
- 256 Physically sick people
- 257 Babies
- 258 Very old people
- 259 Women athletes
- 260 Outspoken people with new ideas
- 261 Musical geniuses
- 262 People who daydream a lot
- 263 Prominent artists
- 264 Outstanding scientists
- 265 Acrobats
- 266 Democrats
- 267 Prohibitionists
- 268 Republicans
- 269 Men who perform on TV
- 270 People who insist on having everything in its proper place
- 271 Fashionably dressed people
- 272 Carelessly dressed people
- 273 People who don't believe in evolution
- 274 Socialists
- 275 Nonconformists
- 276 Independents in politics
- 277 Men who live dangerously
- 278 Prominent businessmen
- 279 Prominent labor union men
- 280 Athletic men

Part VI. Order of Preference of Activities. Here are ten things you could do. **First read all ten.** Then select the **three things** you think you would like **most** to do, and mark them in the **first row** on the answer sheet, next to their numbers. Select the **three things** you would like **least** to do, and mark them in the **third row**. Then **mark the remaining four items in the middle row** where no marks have been made so far. (Some answer sheets use columns instead of rows.)

- 281 Develop the theory of operation of a new machine (for example, an auto)
- 282 Operate (manipulate) the new machine
- 283 Discover an improvement in the design of the machine
- 284 Determine the cost of operation of the machine
- 285 Supervise the manufacture of the machine
- 286 Create a new artistic effect (that is, improve the beauty of the machine)
- 287 Sell the machine
- 288 Prepare the advertising for the machine
- 289 Teach others the use of the machine
- 290 Interest the public in the machine through public addresses

Show in the same way the three things that mean the most to you in a job; then the three least important things. Mark the four items left over in the middle row.

- 291 Salary received for work
- 292 Steadiness and permanence of work
- 293 Opportunity for promotion
- 294 Courteous treatment from superiors
- 295 Opportunity to make use of all one's knowledge and experience
- 296 Opportunity to ask questions and to consult about difficulties
- 297 Opportunity to understand just how one's superior expects work to be done
- 298 Certainty that one's work will be judged by fair standards
- 299 Freedom in working out one's own methods of doing the work
- 300 Co-workers—congenial, competent, and adequate in number

Show in the same way the three occupations you would like most; then the three you would like least. Mark the remaining four in the middle row.

- 301 Plant scientist—develops new vegetables and flowers
- 302 Opera singer
- 303 Inventor
- 304 Manufacturer
- 305 Nationally known artist
- 306 Banker, financier
- 307 General of the Army
- 308 Member of the Supreme Court
- 309 Author of "best seller"
- 310 Manager of large department store

Show in the same way the three offices you would like most to hold in a club or society; then mark the three you would like least to hold. Mark the four offices left over in the middle row.

- 311 President of a Society or Club
- 312 Secretary of a Society or Club
- 313 Treasurer of a Society or Club
- 314 Member of a Society or Club
- 315 Chairman, Arrangements Committee
- 316 Chairman, Educational Committee
- 317 Chairman, Entertainment Committee
- 318 Chairman, Membership Committee
- 319 Chairman, Program Committee
- 320 Chairman, Publicity Committee

Please check to see that in each set of ten questions you have three marks in the first row, three in the third row, and four in the middle row.

Part VII. Preference between Two Items. Show here which of two different kinds of work or ways of doing things you like better. If you prefer the items on the **left**, mark in the **first** row; if you prefer the items on the **right**, mark in the **third** row. If you like **both the same** or if you **can't decide** which one you like better, mark in the **middle** row. Work rapidly. Make one mark for each pair.

- | | |
|--|---|
| 321 Airline pilot | Airline ticket agent |
| 322 Policeman | Fireman (fights fire) |
| 323 Taxicab driver | Policeman |
| 324 Head waiter | Lighthouse keeper |
| 325 Take dancing lessons | Take singing lessons |
| 326 Selling things house to house | Gardening |
| 327 Repaint autos | Grease autos |
| 328 Develop plans | Execute plans |
| 329 Do a job yourself | Tell somebody to do the job |
| 330 Talk others into doing something | Order others to do something |
| 331 Deal with things | Deal with people |
| 332 Plan for immediate future | Plan for five years ahead |
| 333 Activity that produces tangible returns | Activity that is enjoyed for its own sake |
| 334 Taking a chance | Playing safe |
| 335 Definite salary | Commission on what is done |
| 336 Work for yourself | Carry out program of superior who is respected |
| 337 Thrilling, dangerous activities | Quieter, safer activities |
| 338 Work in a large corporation with little chance of becoming president until age 55 | Work for self in small business |
| 339 Selling something for less than others sell it ... | Selling something for more than others sell it |
| 340 Travel alone and make own preparations | Travel with someone else who makes all the decisions |
| 341 Work with few details | Work with many details |
| 342 Outside work | Inside work |
| 343 Work in which you move from place to place ... | Work where you stay in one place |
| 344 Great variety of work | Similarity in work |
| 345 Physical activity | Mental activity |
| 346 Work in an import-export business | Work in a research laboratory |
| 347 Technical responsibility (in charge of 25 people doing scientific or technical work) | Supervisory responsibility (in charge of 300 people in typical business work) |
| 348 Present a report in writing | Present a report verbally |
| 349 Listening to a story | Telling a story |
| 350 Playing baseball | Watching baseball |
| 351 Amusement where there is a crowd | Amusement alone or with one or two others |
| 352 Music and art events | Athletic events |
| 353 Reading a book | Watching TV or going to a movie |
| 354 Plumber | Electrician |
| 355 A few close friends | Many acquaintances |
| 356 Superintendent of hospital | Warden of a prison |
| 357 Vocational counselor | Public health officer |
| 358 Travel to outer space | Explore bottom of ocean |
| 359 Dog trainer | Juvenile parole officer |
| 360 Appraise real estate | Repair, restore antiques |

Part VIII. Your Abilities and Characteristics. Show here what kind of person you are and the kinds of things you do. If the item really describes you, mark in the first row (**Yes**); if the item does **not** describe you mark in the third row (**No**); and if you are not sure mark in the second row (**?**). (Be frank in pointing out your weak points, because these are as important as your strong points in choosing a career.)

- 361 Usually start activities of my group
 362 Make decisions immediately, not after considerable thought
 363 Win friends easily
 364 Usually get other people to do what I want done
 365 Usually liven up the group on a dull day
- 366 Keep detailed records of expenses
 367 Prefer working alone to working on committees
 368 Have mechanical ingenuity (inventiveness)
 369 Have more than my share of novel ideas
 370 Can prepare successful advertisements
- 371 Am concerned about philosophical problems, for example, religion, meaning of life, etc.
 372 My grades in high school were a fairly accurate reflection of my abilities
 373 Am always on time with my work
 374 Remember faces, names, and incidents better than the average person
 375 Can correct others without giving offense
- 376 Am able to meet emergencies quickly and effectively
 377 Do my best work early in the morning
 378 Can write a concise, well-organized report
 379 Have good judgment in appraising values
 380 Plan my work in detail
- 381 Follow up subordinates effectively
 382 Put drive into the organization
 383 Stimulate the ambition of my associates
 384 Can be firm and show I mean it
 385 Am slow-going and sure rather than quick-moving
- 386 Can smooth out tangles and disagreements between people
 387 Have patience when teaching others
 388 Discuss my ideals with others

For each question, choose from the three phrases the one that **best** describes you. Then mark your choice on the answer sheet: **first** row if your choice is (1), **middle** row for (2), or **third** row for (3).

- | | | | |
|--|-----------------------------|-------------------------|---------------------------------|
| 389 Pay attention to details | (1) Very little | (2) Somewhat | (3) Very much |
| 390 Worry about mistakes | (1) A good deal | (2) Very little | (3) Never |
| 391 Lend money to | (1) Acquaintances | (2) Only certain people | (3) Hardly anyone |
| 392 When it comes to taking orders from others and carrying them out | (1) I dislike to | (2) I don't care | (3) I do it cheerfully |
| 393 When caught in a mistake, I make excuses | (1) Usually | (2) Seldom | (3) Practically never |
| 394 Speak | (1) More slowly than others | (2) About average | (3) Faster than others |
| 395 Complaints annoy me | (1) Rarely | (2) Sometimes | (3) Quite a bit |
| 396 In my family, I am the | (1) Oldest (or only) child | (2) Youngest | (3) Neither oldest nor youngest |
| 397 At a large conference, I prefer a seat | (1) In first 3 rows | (2) Halfway back | (3) In rear of room |
| 398 My advice is asked for | (1) By many | (2) By few | (3) By almost nobody |
| 399 Make bets | (1) Often | (2) Sometimes | (3) Rarely |

NOTE: If your answer sheet has room for 400 items, fill in ALL THREE answers to item number 400; then write very plainly somewhere on the edge of the answer sheet, "I used Booklet Form T399."

A NOTE TO PROFESSIONAL USERS OF THE SVIB

The following comments are directed to counselors, personnel workers, and research psychologists.

In 1966, this revised version of the SVIB was published to bring the questions in the inventory up to date. Many items were slightly reworded, and some were changed substantially. During the revision, several occupational scales were added to the profile, and the scoring system was changed.

The revised scales correlate highly with the older scales, and the reliabilities and validities of the revised scales are essentially the same as those of the older scales.

A complete discussion of this revision can be found in the 1966 Manual for the Strong Vocational Interest Blank.

The revised booklet is designated Form T399 and contains 399 items. (The older booklet contained 400 items.) Instructions in this booklet emphasize that a 399-item answer sheet should be used with Form T399 to prevent confusion. Actually, during 1966-67, either the revised (399-item) answer sheet or the old (400-item) answer sheet can be used, as they can both be scored with the revised scales. However, new scales will soon be developed for the revised booklet, and for this reason the changeover to the new answer sheet should be made as quickly as possible.

If the old answer sheet is used with the revised booklet, the instructor should ask the person being tested to ignore instruction (2) on the front page of this booklet, and to begin the test by marking the answer sheet as requested in the special boxed instruction at the bottom of page 7.

Unless specifically requested otherwise, scoring services will use the revised scales for all answer sheets. Under certain conditions, inventories completed before 1966 can be scored on both the old and the revised scales. Inventories completed after 1966—with the revised booklet—can be scored on the revised scales only. More detailed information is available in the Manual for the SVIB. If questions arise, consult your scoring service or the publisher.

VITA

Kathleen A. Peterson

Candidate for the Degree of
Master of Science

Thesis: A Comparative Study of GPA Predictability Using the JAPQ
and the SVIB

Major Field: Counseling Psychology

Biographical Information:

Personal Data: Born at Quesnel, British Columbia, Canada,
March 8, 1939, daughter of Andrew R. and Florence F.
Peterson.

Education: Graduated from Kelowna Senior High School in 1958;
received an Elementary Teaching Certificate from the
University of British Columbia in August 1962; graduated
from Utah State University with a Bachelor of Science
degree, June 1970.

Professional Experience: Elementary teacher at Quesnel, B.C.,
1962-64; Employment Counselor for the Department of Canada
Manpower and Immigration, Vancouver, B.C., 1966-1969.