Vocational Interests and Curriculum Satisfaction of Juniors at Western Michigan University: A Pilot Study

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VOCATIONAL INTERESTS AND CURRICULUM SATISFACTION
OF JUNIORS AT WESTERN MICHIGAN UNIVERSITY: A PILOT STUDY

by

Reiko Matsumura

A Project Report
Submitted to the
Faculty of the School of Graduate
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of the
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TABLE OF CONTENTS

CHAPTER I THE PROBLEM AND ITS IMPORTANCE ................................................. 1
  Statement of the Problem .......................................................... 5
  Delimitation of the Study ......................................................... 5
  Assumptions ............................................................................... 6
  Definition of Terms ................................................................... 6

CHAPTER II REVIEW OF SELECTED LITERATURE ........................................... 9
  Permanence of Interest ............................................................... 9
  The Interest Inventory as a Predictive Device ............................... 13
  Discrepancy between Expressed and Measured Interests ................. 19
  Summary ................................................................................... 21

CHAPTER III PROCEDURES AND RESULTS ............................................... 24
  Procedures ................................................................................. 24
  Null Hypotheses ..................................................................... 27
  Instrumentation ..................................................................... 29
  Results .................................................................................... 30

CHAPTER IV DISCUSSION AND SUMMARY ............................................. 33
  Discussion ................................................................................... 33
  Summary, Conclusions, and Recommendations ........................... 39

REFERENCES .................................................................................. 41

APPENDIX A ...................................................................................... 45

APPENDIX B ...................................................................................... 47

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CHAPTER I

THE PROBLEM AND ITS IMPORTANCE

It is assumed that an individual does well what he likes to do and is happier and satisfied when engaged in the work he enjoys (Strong, 1943). Although intelligence and aptitudes are important determinants to satisfactory academic work, whether or not an individual enjoys academic work and related occupational activities, and consequently remains in the field, depends greatly on his interest. Hall (1911) mentioned:

... Did anyone... ever succeed who did not love his work better than anything else? Especially when everything is so intricate and apprenticeship so long as it is today, he who does not so love his work that it becomes play, so that he turns to it rather than anything else, cannot win the prizes of our day... I think that the greatest good fortune that can befall a man is to be able to make as his vocation what he loves to do during his vacation... If there is something you prefer to do to anything else, that way lies your calling (p. 288).

People invest many years in education. Since a college education for most students is a preparation for a future occupation, and curricular choice is obviously related to later occupational selection, curricular choice becomes an important problem for most college students. College students desire not only to discover in what field they will do well, but also in what field they will find the most enjoyment (Berdie, 1944). In addition, counselors speculate to what extent they are helping students make educational-vocational choices that are satisfactory and productive.
Observation has shown that many students change their curriculum for various reasons at some point in their college life. Cook (1965) reported that 32% of the students who entered Auburn University in the Summer and Fall of 1959 had changed their major one or more times by the Fall of 1962. It was also reported that nearly 43% of the Pennsylvania State University students who entered in the Fall of 1957 changed their major at least once before graduation (Gamble, 1962).

It seems reasonable to assume that some students change their major because they find themselves in a field in which they are not very interested. On the other hand, there are students who feel a vague dissatisfaction with their chosen field, but do stay in the field for various reasons: (a) they do not know in which direction they should go, (b) an immediate need is just to finish their college education or, (c) they pay little attention to the question whether their major interest really lies in their chosen field or not. Students who graduate from colleges and universities with some dissatisfaction and misgivings as to their future career and what a college education has meant to them may again find dissatisfaction with the occupation for which they have prepared.

As more young people seek higher education, it is expected that there will be more students who are not really sure which field of interest they should pursue, what they can expect from college, or what they are interested in. Therefore, providing
services of educational and vocational counseling and guidance is an important function of the student personnel services in today's colleges and universities. How well students do academically is one concern of the university, but it is this writer's view that how satisfied students are with their particular fields and how satisfied and successful they will be in their respective future career should be an equally important concern.

In most institutions today emphasis is placed upon a student's academic performance, but less provision is made to assist confused, indecisive students in developing meaningful and realistic educational-vocational goals. It might be argued that it is good for students to explore for themselves. Those years spent in exploration may be valuable for some individuals. On the other hand, those years may be rather fruitless ones during which the student drifts from one field of interest to another while confronted with anxiety and discontent. Snyder (1940) expressed his concerns as follows:

... And the selection of the right person for the right work is equally important to society as a whole, the sole means of utilizing to the full its productive capacity. The material benefits from such a system would be immense, but not more important than the rescue of hundreds of thousands of frustrated, disappointed, unhappy lives—impaled upon impossible ambitions of careers for which they have no talent or adaptability. Why should the selection of a vocation be left to chance? Why not a search for talent and ability? What a difference it might make—not to thousands—the favored few—but hundreds of thousands, each learning to do something distinctly suited to his capacity (p. 280).
It is quite possible for a difference to exist between academic studies and related occupational pursuits. Interest in a certain curriculum does not necessarily guarantee interest in an occupation that an individual's particular educational background leads him to enter. Therefore, the formulation of a curriculum interest inventory for the purpose of helping students in the choice of their major field seems warranted. If curriculum interests do not correlate highly with vocational interests, however, the usefulness of such an inventory will be limited. It may be a valuable instrument for those students who consider education simply as personal growth and enrichment but not as preparation for their future career. For them the question whether or not the education they receive will give them a satisfactory career adjustment is not important. For most college students, however, educational experiences are a preparatory step towards their future occupation. They cannot afford to spend too many years and much money for education, if the experience and training which they have received cannot be used in their future career.

Assuming that interest is an important factor in choice of a college major or an occupation, the question is whether or not a vocational interest inventory can be used to help college students choose a major field conducive to satisfaction in their academic pursuits as well as their future career. Can a vocational interest inventory predict curriculum satisfaction as it predicts job satisfaction? The present study is an attempt to partially answer this question.
Statement of the Problem

It was hypothesized that there was a significant relationship between the satisfaction students derived from academic activities in their major fields and their measured vocational interests. In this study the major problem was to compare measured vocational interests of junior students satisfied with their major fields of study in contrast to students dissatisfied with their curricular choices in terms of their scores on 11 occupational group scales and three non-occupational scales on the SVIB.

Delimitation of the Study

Analysis of the data was limited to the responses of 841 junior students on the Curriculum Satisfaction Blank (CSB) and also to the responses of 119 students, selected on the basis of their CSB scores, on the Strong Vocational Interest Blank (SVIB).

Since these measurement devices are limited in their validity and reliability, this study was limited to the results on the above instruments. The SVIB used in this study, however, has earned a favorable reputation among many workers in the field of guidance and counseling and is considered to be among the best interest inventories available (Super, 1949; Cronbach, 1960).

In selecting students for this study, student enrollment cards were used. Every third student was chosen from among all on-campus junior students at Western Michigan University. This random sample can be considered representative of junior students at a university.
similar to Western Michigan University; however, generalization
must be made with caution since the study was limited only to the
junior class who were living on campus at Western Michigan University
during the Fall Semester, 1967.

Assumptions

For purposes of the study, the following assumptions were
accepted.

1. The vocational interests of the population sampled were
fairly permanent and little influenced by vocational training and
experience (Strong, 1943; Super, 1949).

2. The SVIB is a valid and reliable vocational interest
inventory (Strong, 1966).

3. The CSB devised by Berdie based on Hoppock's Job Satis-
faction Blank is a reliable (Spearman-Brown r: .87) device with which
to measure the satisfaction students derive from academic activities
in their major fields (Berdie, 1944). The form used in this study
was adapted from Berdie's CSB with minor changes (see Appendix A).

4. The sample population was limited to on-campus students
only and did not affect the representativeness of the total popu-
lation of juniors at Western Michigan University.

Definition of Terms

In order to clarify the terminology used in this study, the
definition of terms is listed as follows.
Interest

Interest is a response of liking or accepting reaction associated with various activities and objects. Interests "... point to what the individual wants to do, they are reflections of what he considers satisfying" (Strong, 1943, p. 19).

Satisfaction

Webster (1964) defines satisfaction as "... complete fulfillment of a need or want: attainment of a desired end ..." (p. 2017). Satisfaction is felt not only when the goal is reached but also in the process of progressing toward a goal, while dissatisfaction occurs when progress toward a goal is thwarted (Strong, 1958).

Occupational group

An occupational group refers to the group of occupational scales as they are grouped on the SVIB. There are 11 occupational groups, which are labeled as follows: I. Biological Science; II. Physical Science; III. Technical Supervision; IV. Technical and Skilled Trades; V. Social Service; VI. Aesthetic-Cultural; VII. CPA Owner; VIII. Business and Accounting; IX. Sales; X. Verbal-Linguistic; and XI. President, Manufacturing Concern (Strong, 1966, p. 12). Two of these occupational groups, namely, Group VII and Group XI, represent only one occupation each, whereas the remaining groups contain more than two occupational scales.
In the following chapter selected literature relevant to this research study will be reviewed and discussed. Chapter Three will deal with procedures and results, followed by Chapter Four, which will include discussion, summary, conclusions, and recommendations.
CHAPTER II

REVIEW OF SELECTED LITERATURE

Interest, as defined in the previous chapter, can be classified into three categories: expressed, manifest, and measured interest. Expressed interest is the verbal expression of interest in an object, activity, task or occupation; manifest interest is interest evidenced by participation in an activity or an occupation (Super, 1949); measured interest is interest as measured by interest inventories or tests. In reviewing literature for this particular project the main concern lies in measured vocational interest.

There are a number of studies reported that deal with vocational interest but only the following were selected as representative studies relevant to this particular research study. They are grouped and presented under three sections. The first section is concerned with permanence of interest; the second, interest inventory as a predictor; and the third, discrepancy between expressed and measured interest.

Permanence of Interest

The question to what extent an individual's vocational interests persist throughout his life is a crucial one since it is one of the major assumptions that this study is based on. This
section includes studies on permanence of interest with reference to age, time interval, and influence of training and experience.

Strong (1943), on the basis of his extensive studies in connection with the construction and development of the SVIB, mentioned that although interests were learned and therefore might be modified by re-education, "the evidence is fairly conclusive that occupational-interest patterns are well established in many children by fifteen years of age" (p. 12). He investigated the changes in men's interests associated with age, and found the rank-order correlation between occupational items liked by 15-year-old boys and 55-year-old men to be .73. The correlation between 15-year-old boys and 25-year-old men was .82, and that between 25- and 55-year-olds was .88. The data showed that the items well liked early in life were the items that were also well liked later in life. Strong indicated that changes of interest, however, were considerable between the ages of 15 and 20, relatively slight between the ages of 20 and 25, and very little from age 25 to 55.

In one of his test-retest studies, Strong (1943) found that the correlation between occupational interest scores on the SVIB, when there was a ten-year interval, was .75. When the interest profile of a college senior was compared with the profile obtained ten years later, the average of such correlations was also .75. Strong emphasized, however, that these measures represented the average person, and for some people permanence was much greater while for others it was much less.
Strong (1951b) also reported on a 19-year test-retest correlation study of college freshmen and on a 22-year study of college seniors. The subjects were seniors and freshmen at Stanford University who were tested and retested four different times in the 19- and 22-year period respectively. The correlations considered were those between the first test scores on 34 different scales on the SVIB and the subsequent retest. The correlations for seniors were .84 for 5 years, .82 for 10 years, .75 for 22 years, and for freshmen the correlation was .72 for a period of 19 years.

Trinkaus (1953) investigated the permanence of vocational interests measured by the SVIB of 212 college freshmen and found a considerable degree of permanence over a 14- to 15-year period. The coefficients were significant at the .01 level of confidence. He reported that (a) extreme scores (A & C ratings) were the most stable with the low scores (C ratings) being more stable than the high scores (A ratings); (b) middle grades (B ratings) were those most lacking in stability and had a definite tendency to shift toward the lower end of the scale with the passage of time; and (c) it was much easier to obtain a low score than a high score.

Wright and Scarborough (1958) also reported on the relatively high degree of stability of the measured interests of college freshmen through the senior year of college.

Some researchers investigated the influence of training and experience upon interests. As Strong (1943) mentioned:

... It is obvious that if interests are not permanent and are influenced considerably by training and occupational experience it would
be rather futile to assign a youth to an occupation in terms of his present interests. If interests are easily changed, it might be better to ignore them, to base guidance solely upon abilities, and then provide for special training designed to make a task agreeable (p. 51).

Strong continued:

. . . . Interests are apparently little influenced by vocational training and actual experience in an occupation . . . . There are also ample data showing that many young people possess clear-cut occupational interests prior to any educational or occupational experience . . . . Apparently interests typical of occupations do not result from experience in the occupation, but rather the interests come first and the occupation is chosen because it provides a working environment in which the interests may be satisfied (p. 51).

Strong (1951a) found that continuous employment for 20 years in one occupation caused a slight increase in score on the SVIB; for 230 men the mean scores in 1927 and 1949 were 44.5 and 46.8 respectively, while the median rank positions were 3.3 and 2.8 among the 34 occupational interest scores for the same years. Additional data indicated this increase took place within the first five years after leaving college and from then on changes were downward.

Herzberg and Russell (1953) studied the similarity of the interests measured by the Kuder Preference Record between: (a) beginners and experienced workers; and (b) experienced workers and experienced workers with new occupational goals. They found that the interests of the beginners' groups were basically similar to those of experienced persons in the same occupation, but the beginners obtained higher scores on scales typical of the
occupational area. They also found that the Kuder interest scores of persons seeking employment in a new field differed from those of persons in similar occupations who chose to remain in their present vocational field. The particular scale in which the differences took place followed the type of work to which the change was being made.

Other investigators (Long & Perry, 1953; Hannum & Thrall, 1955; Hale & Leonard, 1956) also reported that the professional training program did not significantly change the vocational interest test scores.

The Interest Inventory as a Predictive Device

Since one of the principal roles that the vocational interest inventory plays is to assist the individual in his vocational decision-making process, its usefulness as a predictive device becomes important. Because people do not necessarily choose an occupation on the basis of their interest alone, occupational choice is not a very good single criterion of the validity of the vocational interest inventory. Strong (1943) mentioned.

The criterion of a vocational-interest test should be whether or not the person will be satisfied in the career to which it directs him, other factors than interest being disregarded. Our data indicate that interest-test scores express future efficiency to some extent, which is very fortunate; but the interest test is not constructed for that purpose and should not be evaluated on that basis. Its validity should be measured in terms of interest or satisfaction in the work (p. 384).
As Strong indicated, there were objections to using satisfaction as a criterion because: (1) dissatisfaction might be caused by other factors but not by the work per se, (b) man should not be too satisfied since maladjustment could be a motivating force, and (c) no adequate measures of satisfaction were available. Strong also pointed out the fact that since the SVIB scales "... express the relationship between the average man in the occupation and the average man-in-general, the criterion of such a test is not high degree of satisfaction but 'reasonable' satisfaction in contradistinction to dissatisfaction" (p. 385). By reasonable satisfaction Strong meant from 25 to 100 on a scale ranging from -100 to +100. Because of a lack of an adequate measure of satisfaction in work, Strong, however, made a compromise and used "continuance in an occupation" as a measure of "satisfactory adjustment," and then later changed to "occupation-engaged-in" as a criterion. This new measure was not totally satisfactory but the most practical measure available. He reported a number of longitudinal studies in which he used these criteria to test the predictive validity of interest scores.

In his 20-year follow-up study, Strong (1951a) found high agreement between scores on the SVIB of college men and occupations engaged in 20 years later. He indicated that for the 230 men who had not changed their occupation the agreement amounted to 91% of the possible maximum; for the 115 who had changed their occupation the agreement amounted to 77%; for all the 345 men, the agreement amounted to 86%.
In his ten-year follow-up study, Strong (1943) also concluded that there was high agreement between the scores on the SVIB of college seniors and "occupation-engaged-in" ten years later. He indicated that he had obtained similar results in regard to college freshmen.

More recently, Berdie (1965) reported that high school senior boys' SVIB scores were found to be significantly related to the occupations (journalism, dentistry, mechanical engineering, and architecture) they entered after college graduation. He stated that the results justified the careful use of the SVIB with high school seniors.

Some investigators attempted to use the worker's expression of satisfaction or dissatisfaction as a criterion in their study of predictive validity of interest test scores. Sarbin and Anderson (1942) conducted a study on the relation between measured interest patterns and occupational dissatisfaction. The subjects were 100 adults who utilized the services of the University of Minnesota Testing Bureau. The results indicated that most adult males who complained of occupational dissatisfaction had no primary pattern of interest on the SVIB in the occupational group which embraced their current occupation. Sixty-two of the 76 men (82%) fell in this category. On the other hand, 14 out of 24 women (58%) had no primary pattern in the occupation in which they were employed. It was concluded that occupational dissatisfaction was associated with a lack of primary interest in the current occupation. As an
explanation, two alternatives were suggested: (a) a person's interests were stable, and the occupational dissatisfaction resulted from the incongruence between the occupational activities and interests; (b) a person's interests were not stable and the dissatisfaction resulted from changes from a primary pattern of interests to no primary pattern of interests in the current occupational group because of lack of success, environmental factors, or personality traits in interaction.

Lipsett and Wilson (1954) investigated whether "suitable" interests and ability were significantly related to job satisfaction. Subjects were 108 former clients who were counseled at the Rochester Institute of Technology's Counseling Center. Their occupations were known, and their job satisfaction rating, measure of interest, and measure of mental ability were available. The subject's interests were classified as "suitable" if one of his two highest percentile scores on the Kuder corresponded with the Kuder's classification of the occupation in which he was engaged. The results showed that the subjects with the greatest job satisfaction tended to have vocational interests that would be classified as "suitable" and that those reporting job indifference or dislike tended to have "unsuitable" vocational interests. The relationship between the appropriateness of the subject's ability for his job and job satisfaction was also studied. It was concluded that "... with the criteria used, interests were related to job satisfaction more closely than was mental ability" (p. 380).
McArthur (1954) reported that "it was possible to demonstrate a relation between conformity to choices commended by the SVIB and future vocational happiness" and that "choosing a job for which one had (some years before) scored 'A' also seemed to reduce the likelihood of developing fatigue, irritability or other symptoms of strain" (p. 352).

Reviewing job satisfaction research in 1952, Robinson (1953) reported that Hutchinson had found a positive and reliable relationship between vocational interest and job satisfaction of 488 relatively inexperienced women elementary teachers, the coefficient of correlation being significant at the .01 level of confidence, and that the results compared favorably with the findings of Schwebel and Kates in their correlational study.

Thorpe and Campbell (1965) made an extensive follow-up study of male subjects who had been students at the University of Minnesota in the middle 1930's and who could be located in 1962. These subjects were asked if their interests were typical of others in their occupational field. Of 304 respondents 212 said "yes" (the like group), while 102 said "no" (the unlike group). There were no differences between these two groups in terms of the average number of years spent on their present jobs, or in their present occupation, or in terms of the average number of jobs held since leaving school. Work satisfaction was measured by a number of questions adapted from Hoppock's Job Satisfaction Blank and through interviews. It was found that the like group had a higher
average satisfaction score than the unlike group. A t test was significant at the .001 level. It was also hypothesized that the unlike group would also be less satisfied with life in general, but the data showed no difference between the two groups in level of general satisfaction. The investigators concluded that a measure of expressed interest could differentiate workers in their degree of job satisfaction. They further administered the SVIB to the subjects, and the congruence between each subject's interest profile and the occupation he was in was rated by a group of experienced vocational counselors. They found that the SVIB ratings correlated higher with occupational satisfaction than with life satisfaction. The correlation between the SVIB ratings and occupational satisfaction was significant at the .001 level.

Berdie (1944) attempted to ascertain if the satisfaction a college student derived from his course work could be predicted by his responses on the SVIB or by other predictive indices (ability and achievement tests and high school grades). The front page of Hoppock's Job Satisfaction Blank was adapted as a measure of curriculum satisfaction. It was filled out by 154 engineering students who took a battery of ability, achievement and interest tests a year before entrance to college. The relationships between curriculum satisfaction, college grades, and test scores were analyzed. The results indicated no single factor was highly related to a student's satisfaction with his curriculum. There was evidence, however, that students with no

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primary interest pattern in engineering would be least satisfied with their curriculum and that those who were extremely satisfied or dissatisfied might be differentiated on the basis of the engineer scale on the SVIB. Berdie stated that although the results of this study did not demonstrate whether or not interests would predict curriculum satisfaction, they did suggest that this might be a profitable field of study.

French (1961) found that about one-fourth of all the senior students from three colleges of different types whom he studied were dissatisfied with their choice of a major field and indicated that "... average interest scale patterns made in freshman year were found to have some relationship to satisfaction in senior year" (p. 294).

Discrepancy between Expressed and Measured Interests

If a college student's expressed interest in an occupation is always highly correlated with his measured interest in the corresponding occupational field, there would be no need for an interest inventory. But evidence has shown that this is not the case. There tends to be a discrepancy between expressed or self-estimated interests and measured vocational interests.

Bedell (1941), after studying the correlation between self-estimated and measured vocational interests of 141 freshman women in the Teachers College of the University of Nebraska, reported:

... in general self-estimates predict scores for the given occupation no more accurately than such
estimates predict the scores for some other occupation. . . . Increased support [is given] to personnel workers who insist that students' self-estimated vocational interests are insufficient evidence upon which to diagnose the amount of satisfaction that will be obtained in a vocation. . . . A grave question is raised toward the validity of educational procedures largely based upon the self-estimated interests of students (p. 54-65).

Crosby and Winsor (1941) studied the relationship between estimated interests and interests measured by the Kuder of 222 college students. They found an average correlation of .54. They concluded that interest inventories might probably be used quite profitably to supplement the student's own opinion of his interests. The results of their study also showed that the more intelligent students were capable of more accurate estimation of their interests.

Moffie (1942) similarly found that there was generally a low correlation between estimated interest scores and the SVIB scores of 80 students. He suggested that the lack of agreement between estimated and measured interests was most likely due to a lack of maturity and experience on the part of the students and that "... a trend or constellation of interests may be picked up by a test, whereas it may go unnoticed in a self-analysis" (p. 612).

Berdie (1950) studied the relative agreement between scores on the SVIB and self-ratings and between scores on the Kuder and self-ratings, using as subjects 500 men who sought assistance at the Student Counseling Bureau of the University of Minnesota. The results showed a correlation of about .50. Scores on the Kuder
showed a closer relationship to self-ratings of interests than did the scores on the SVIB. Berdie concluded that there was little agreement between measured and self-estimated interests in any occupational area and that as long as measured interests had a relevancy for vocational satisfaction and self-estimated interests played an important role in the vocational deliberations of individuals, both types of interest must be considered.

In their fourteen-year follow-up study, McArthur and Stevens (1955) compared the predictive power of expressed and measured interests of 60 college students in the light of the actual careers they were pursuing at the time of their follow-up study. They concluded that the SVIB appeared to be most applicable to men reared in the middle class success culture but seemed less applicable to those upper-middle and upper class groups who possessed an alternative culture. Expressed interests were better predictors than measured interests among the upper-middle and upper class groups.

Other studies (Arsenian, 1942; Stuit, 1938) also showed the discrepancy between expressed interests and measured interests.

Summary

One of the problems of a study in the area of occupational interests is that man's interests are highly complex in nature and instruments to measure this complex aspect of personality lack precision. The literature reviewed in this chapter, however, warrants the following conclusions.
1. Vocational interests, as measured by the vocational interest inventory, change with age but are most likely to be crystallized by the age of 20. Thereafter, changes do occur, but these changes are not great and interests tend to remain stable.

2. Entrance to college or to an occupation accompanied by a new environment and new experiences may change the individual's vocational interests or cause some fluctuations in his interest profile. The extent of such changes is still in doubt. The data from research studies seem to indicate that changes are not extensive.

3. In general, there are discrepancies between expressed or self-estimated and measured vocational interests. Apparently expressed and measured vocational interests may differ within the same individual. It is not clear, however, why such discrepancies exist and how they should be interpreted. Measured interests seem to be a more valid indication of the individual's vocational inclination for two reasons: (a) measures are based upon many related activities and items, and (b) measures make it possible to compare the individual's interests with those of others.

4. Because of the complex nature of occupational choice, measured interests cannot as effectively predict the future vocational choice of an individual as might be expected. Available data, however, suggest that measured vocational interests are rather closely related to job satisfaction.

5. Only a few studies have been reported which deal with the major concern of this research study, that is, the problem of
whether there is a significant relationship between curriculum satisfaction and measured vocational interests. Berdie and French reported that there seemed to be some relationship between the two. The results of their studies were not conclusive, however, and this area still needs further investigation and clarification.
CHAPTER III

PROCEDURES AND RESULTS

The procedures and results are discussed under the following headings: (1) Procedures, (2) Null Hypotheses, (3) Instrumentation, and (4) Results.

Procedures

One thousand junior students (510 males and 490 females) at Western Michigan University comprised the sample for this study. In selecting these students, student enrollment cards were used. Every third student was chosen from among all the junior students who were living on campus in September, 1967. The sample represented 23.5% of the total junior population of 4239 (2411 males and 1828 females). The junior class was chosen for the study because it was assumed that they had been in college long enough to express a degree of satisfaction with respect to their academic activities in their major fields. Other important reasons were that interests were considered to be fairly well set at this age and most of the students were committed to some future goal.

The CSB was sent to 1000 students to determine the degree of satisfaction which they derived from academic activities in their major fields. In addition, a question concerning students'
plans after graduation was included. On the answer sheets sent to the students, places were provided for age, the name of the curriculum students were in and majors and minors. Students' names were not requested; however, each answer sheet had been previously numbered for later identification. Because of the change of addresses on the part of some of the students, the sample diminished in size, reducing the number of students from 1000 to 939. Eight hundred and eighty students (432 males and 448 females), or 93.7% of 939 students, responded to the questionnaire; however, the answer sheets from 841 students were complete in their entirety. These 841 students were enrolled in 34 different curricula.

Seven responses to each one of the four questions on the CSB were assigned a number from a lower limit of one through an upper limit of seven. A score for these four questions was calculated. The maximum score that could be obtained by any student was 28 and the minimum four. Based on this score, two groups of students were identified, one with high and the other with low scores. One group consisted of 65 students whose scores ranged from 25 to 28 and the other group of 70 students had scores from four to 16. These scores lay beyond one standard deviation in either direction from the mean on the total satisfaction-dissatisfaction continuum. The frequency distribution of the scores is found in Figure 1. The group of students with high scores were considered to be highly satisfied with studies in their major.

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Fig. 1. Frequency distribution of the CSB scores.

Mean = 20.79
SD = 3.10
fields (Satisfied Group) and the students with low scores were considered to be dissatisfied with academic pursuits in their major fields (Dissatisfied Group).

Both the Satisfied and the Dissatisfied Group, totaling 135 students, were asked to take the SVIB. Some students did not respond to the request. Only 119 students (60 from the Satisfied Group and 59 from the Dissatisfied Group) completed the SVIB. The answer sheets were machine-scored and vocational interest profiles were obtained. A group-mean score for each one of the 11 occupational groups and a group-mean score for three non-occupational scales, Specialization Level (SL), Occupational Level (OL), and Academic Achievement (AACH), were calculated for the Satisfied and the Dissatisfied Group. Statistical significance of difference between the two group-means for each occupational group and each non-occupational scale was determined by use of a two-tailed $t$ test (Kerlinger, 1964, p. 179). In this study the .05 level of significance was designated as the measure of significance.

Null Hypotheses

The following 14 null hypotheses were tested in this study.

$H_{01}$: There is no significant difference between the Satisfied and the Dissatisfied Group in the group-mean score of Occupational Group I—Biological Science.

$H_{02}$: There is no significant difference between the Satisfied and the Dissatisfied Group in the group-mean score of Occupational Group II—Physical Science.
Ho3: There is no significant difference between the Satisfied and the Dissatisfied Group in the group-mean score of Occupational Group III—Technical Supervision.

Ho4: There is no significant difference between the Satisfied and the Dissatisfied Group in the group-mean score of Occupational Group IV—Technical and Skilled Trades.

Ho5: There is no significant difference between the Satisfied and the Dissatisfied Group in the group-mean score of Occupational Group V—Social Service.

Ho6: There is no significant difference between the Satisfied and the Dissatisfied Group in the group-mean score of Occupational Group VI—Aesthetic-Cultural.

Ho7: There is no significant difference between the Satisfied and the Dissatisfied Group in the group-mean score of Occupational Group VII—CPA Owner.

Ho8: There is no significant difference between the Satisfied and the Dissatisfied Group in the group-mean score of Occupational Group VIII—Business and Accounting.

Ho9: There is no significant difference between the Satisfied and the Dissatisfied Group in the group-mean score of Occupational Group IX—Sales.

Ho10: There is no significant difference between the Satisfied and the Dissatisfied Group in the group-mean score of Occupational Group X—Verbal-Linguistic.

Ho11: There is no significant difference between the Satisfied and the Dissatisfied Group in the group-mean score of Occupational
Group XI—President, Manufacturing Concern.

$H_{12}$: There is no significant difference between the Satisfied and the Dissatisfied Group in the group-mean score of the SL scale.

$H_{13}$: There is no significant difference between the Satisfied and the Dissatisfied Group in the group-mean score of the OL scale.

$H_{14}$: There is no significant difference between the Satisfied and the Dissatisfied Group in the group-mean score of the AACH scale.

Instrumentation

Vocational interest was operationally defined as interest measured by the SVIB. Specifically in this study, group-mean scores for 11 occupational group scales and three non-occupational scales on the SVIB were used as a point of comparison between the Satisfied and the Dissatisfied Group.

The satisfaction or dissatisfaction which students derived from academic activities in their major fields was defined in terms of the scores expressed on the CSB by the students in the sample. Satisfaction or dissatisfaction was taken as a matter of degree on a continuum ranging from the lowest possible score, four, on the CSB to the highest, 28. For this study the students with scores plus and minus one standard deviation on the continuum were chosen either as satisfied or dissatisfied.
Results

The data analyzed by use of a two-tailed $t$ test revealed a significant difference in three occupational groups, Group IV, V, and VII, and three non-occupational scales, SL, OL, and AACH, at the .01 level of confidence. The Satisfied Group scored significantly higher in two of the above-mentioned occupational groups, V and VII, and all three non-occupational scales, whereas the Dissatisfied Group showed stronger interest in Group IV.

On the basis of the above findings, the following numbered null hypotheses were rejected: 4, 5, 7, 12, 13, and 14. No significant difference was found in the rest of the eight occupational groups; therefore, null hypotheses number 1, 2, 3, 6, 8, 9, 10, and 11 were accepted. The obtained $t$ ratios are presented in Table 1. The SVIB profiles of the two groups based on the group-mean scores of 11 occupational groups and three non-occupational scales are also presented in Figure 2.

The significant differences shown in three occupational groups and three non-occupational scales seemed to indicate different characteristics of the two groups in terms of measured vocational interests.
Table 1

Differences in Group-Mean Scores
between Satisfied and Dissatisfied Groups

<table>
<thead>
<tr>
<th>Interest Scales</th>
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<th>Dissatisfied</th>
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<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
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<td><strong>Occupational Groups</strong></td>
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<tr>
<td>I. Biological Science</td>
<td>26.93</td>
<td>8.27</td>
<td>27.15</td>
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<td>II. Physical Science</td>
<td>17.62</td>
<td>11.21</td>
<td>20.46</td>
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<tr>
<td>III. Technical Supervision</td>
<td>19.39</td>
<td>11.27</td>
<td>23.40</td>
</tr>
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<td>18.48</td>
<td>6.30</td>
<td>23.62</td>
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<td>V. Social Service</td>
<td>35.44</td>
<td>9.60</td>
<td>27.96</td>
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<tr>
<td>VI. Aesthetic-Cultural</td>
<td>39.17</td>
<td>10.62</td>
<td>35.57</td>
</tr>
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<td>VII. CPA Owner</td>
<td>28.65</td>
<td>9.56</td>
<td>23.54</td>
</tr>
<tr>
<td>VIII. Business &amp; Accounting</td>
<td>24.52</td>
<td>10.58</td>
<td>27.00</td>
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<tr>
<td>IX. Sales</td>
<td>32.85</td>
<td>9.23</td>
<td>34.08</td>
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<td>X. Verbal-Linguistic</td>
<td>36.45</td>
<td>7.97</td>
<td>35.05</td>
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<td>XI. President, Manufacturing Concern</td>
<td>19.47</td>
<td>9.90</td>
<td>21.02</td>
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<td><strong>Non-occupational Scales</strong></td>
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<td>Specialization Level</td>
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<td>37.36</td>
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<tr>
<td>Occupational Level</td>
<td>58.93</td>
<td>6.36</td>
<td>54.56</td>
</tr>
<tr>
<td>Academic Achievement</td>
<td>53.63</td>
<td>10.63</td>
<td>43.78</td>
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*Significant at the .01 level of confidence.
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<tr>
<th>Occupational Groups</th>
<th>C</th>
<th>C+</th>
<th>B-</th>
<th>B</th>
<th>B+</th>
<th>A</th>
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<tr>
<td>I. Biological Science</td>
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<td>20</td>
<td>30</td>
<td>40</td>
<td>50</td>
<td>60</td>
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<tr>
<td>III. Technical Supervision</td>
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<td>IV. Tech. &amp; Skilled Trades</td>
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</tr>
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<td>VI. Aesthetic-Cultural</td>
<td>.</td>
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<td>.</td>
<td>.</td>
<td>.</td>
</tr>
<tr>
<td>VII. CPA Owner</td>
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<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
</tr>
<tr>
<td>VIII. Business &amp; Accounting</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
</tr>
<tr>
<td>IX. Sales</td>
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<td>.</td>
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<tr>
<td>X. Verbal-Linguistic</td>
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<td>.</td>
<td>.</td>
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<tr>
<td>XI. President, Manufacturing Concern</td>
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<td>.</td>
<td>.</td>
<td>.</td>
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<td>.</td>
</tr>
</tbody>
</table>

Non-occupational Scales Specialization Level Occupational Level Academic Achievement
Satisfied Group 43.55 58.93 53.63
Dissatisfied Group 37.36 54.56 43.78

Fig. 2. SVIB profiles of Satisfied and Dissatisfied Groups

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CHAPTER IV

DISCUSSION AND SUMMARY

Discussion

Analysis of the data obtained in this study provided some evidence that students satisfied with their major fields of study were different from students dissatisfied with their curricular choices in terms of their measured vocational interests.

The significant differences observed in three occupational groups and three non-occupational scales are worthy of attention and speculation. One of the marked differences between the two groups was shown in Group IV (Technical and Skilled Trades), where the Dissatisfied Group showed significantly stronger interest. Past research findings indicated that most college students with Group IV interests enjoyed working with their hands (Strong, 1966). Since the Group IV scores were within the C rating range, it does not follow that students in the Dissatisfied Group were more inclined toward skilled crafts than toward professional or business works. The fact that the Dissatisfied Group showed stronger interest in Group IV, however, seems to suggest that the Dissatisfied Group was less academically inclined, in comparison to the Satisfied Group. Being less academically inclined probably accounted for the students' expressed dissatisfaction with their academic activities at the university.
It is interesting to note that there was a significant difference between the two groups in the mean score of Group V (Social Service). Research studies (Darley & Hagenah, 1955; Roe, 1953; Tyler, 1945) indicated social service occupations were positively related to a social adjustment factor expressed by the degree of preference for social activities and participation. Individuals interested in social service occupations were, on the average, mature, socially aggressive, and liberal (Darley, 1955) and were typically accepting of their surroundings (Berdie, 1943). If so, unlike the findings by Thorpe and Campbell (See pp. 15-16), the significantly higher score in Group V obtained by the Satisfied Group can be interpreted to imply not only curriculum satisfaction, but also a greater degree of general satisfaction with life and a positive attitude towards their surroundings on the part of the Satisfied Group when compared with the Dissatisfied Group.

A significantly higher score obtained for the CPA Owner scale by the Satisfied Group was in keeping with previous findings. Available data (Strong, 1966) indicated that CPA owners as well as individuals in Group V occupations, on the average, scored higher on the SL and OL scale than individuals in Group IV occupations. The mean score of CPA Owner in the SVIB criterion group on the SL and OL scale was 44 and 66 respectively, and that of Group V people in the criterion groups ranged from 41 to 50 on the SL scale and from 57 to 66 on the OL scale, whereas the mean score of Group IV people in the criterion groups ranged from 31 to 42 on
the SL and from 48 to 56 on the OL scale. The lowest score on
the SL and OL scales by CPA Owner and Group V people was almost
the highest score of Group IV people on the same scales. In this
study, the Satisfied Group scored significantly higher than the
Dissatisfied Group not only on the CPA Owner scale but also in
Group V and on the SL and OL scales. On the other hand, the
Dissatisfied Group obtained significantly lower scores on all of
these scales but scored significantly higher in Group IV.

As reported previously, the Satisfied Group earned signifi­
cantly higher scores on all three non-occupational scales. According
to the SVIB Manual (Strong, 1966), the SL scale is interpreted
"... as measuring a desire or willingness to narrow one's interests,
to become a specialist in an occupational field through advanced
study" (p. 18). The Manual further indicates that "... scores
on this scale have some relevance for the student contemplating
graduate school, inasmuch as a low score (say, below 35) would not
augur well for satisfaction with graduate school experiences ..."
(p. 18).

The OL scale has been developed to discriminate between
people with interests in unskilled vocations and those whose interests
are similar to most business and professional men. Darley (1941)
defined the scale in the context of level of aspiration as a measure
of "... the degree to which the individual's total background has
prepared him to seek the prestige and discharge the social responsi­
bilities growing out of his income, professional status, recognition,
or leadership in the community . . . " (p. 60). Gustad (1952) and Ostrom (1949) found that the OL scale has relevance to "staying power" in college work. Kendall (1947) reported that the scale was positively related to academic achievement with intelligence controlled.

The AACH scale is the most recently developed non-occupational scale incorporated into the SVIB, and it attempts to " . . . identify patterns of interests associated with good scholarship . . . " (Strong, 1966, p. 19). The items making up the scale suggest that the scale " . . . reflects interests in scientific and intellectual endeavors, as opposed to interests in sales, business, and skilled trades activities . . . " (Strong, 1966, p. 21). The scale is purported to predict, to a moderate degree, grades and eventual educational level.

Taken as a whole, significantly lower scores obtained by the Dissatisfied Group on these three non-occupational scales suggest that the students in this group were less academically inclined with a lower level of aspiration as compared to students in the Satisfied Group. A lower level of aspiration as well as being less academically inclined may have been another factor contributing to their dissatisfaction with pursuits in an academic community.

In relation to this discussion, it seems legitimate to call attention to findings from a study made by this investigator and her associate (Matsumura and Schwab, 1968). The purpose of the study was to better ascertain reasons why students withdrew from
Western Michigan University. Students withdrawing from the University were asked to fill out a questionnaire anonymously and on a voluntary basis. Students were to choose from a list of 28 reasons one primary reason for their withdrawal and as many secondary reasons that contributed to their decision to withdraw from the University. Responses from a total of 259 (156 male and 103 female) students collected between October, 1967 and February, 1968 were analyzed. The data showed that the highest percentage of the students stated either a lack of motivation or very dim future goals as a primary reason for their withdrawal. Among the various secondary reasons indicated by students, the same reason ranked first. Although the study was not limited to junior students, the findings have an important implication in relation to the present study. Students who withdrew from the University because of a lack of motivation or very dim future goals may very well have been the students who would have been classified as dissatisfied with respect to academic activities in their chosen fields.

The responses on the questionnaire which students made in regard to their future goals also reflected the indecisive attitude of students in the Dissatisfied Group. Twenty-two students in the Dissatisfied Group stated that they were unsure of their future plans and five of these indicated they were thinking of changing their curriculum, while only one student in the Satisfied Group indicated that he was not sure what he would be doing after graduation.
It is also noteworthy that slightly more than twice as many students in the dissatisfied group were enrolled in the General Curriculum (see Appendix B). The fact could imply the relative inability of students in the Dissatisfied Group to choose a more specific curriculum. It may also suggest a general non-committal attitude toward their academic life on the part of the Dissatisfied Group and corresponds well with the major reason given for withdrawal from Western Michigan University. The finding that the highest percentage of the students who withdrew from Western Michigan University in the Fall Semester, 1967 were enrolled in the General Curriculum (Matsumura and Schwab, 1967) also seems to support this interpretation.

It is possible that satisfied and dissatisfied students had certain identifiable characteristics not only in terms of measured vocational interests but also in terms of other personality characteristics. In this study, however, no data were obtained in regard to personality characteristics. Therefore, no statistical comparison in this respect was possible.

The question whether or not the degree of satisfaction the students in the sample population expressed was related to the level of achievement or whether these students were in fields of study that were congruent with their vocational interests have not been answered in this study. These problems are to be investigated in the future.
Summary, Conclusions, and Recommendations

The purpose of this study was to compare measured vocational interests of junior students satisfied with their major fields of study in contrast to students dissatisfied with their curricular choices. Out of 841 junior students who completed the CSB in the Fall of 1967, students whose scores fell beyond one standard deviation from the mean in either direction were identified as either satisfied or dissatisfied with their curriculum. Sixty satisfied students and 59 dissatisfied students were then given the SVIB. The significant difference between the two group-mean scores of the 11 occupational groups and three non-occupational scales was ascertained by use of a two-tailed $t$ test.

A significant difference was discovered in occupational group scales IV (Technical and Skilled Trades), V (Social Service), and VII (CPA Owner) and in three non-occupational scales (SL, OL, and AACH) at the .01 level of confidence. The Satisfied Group scored significantly higher on all these scales, with the exception of the occupational group IV where the Dissatisfied Group showed stronger interest. On the basis of these differences between the two groups, it is possible that students in the Satisfied Group were more academically interested, had a higher level of aspiration, were socially more mature and aggressive, and possessed more positive attitudes toward their environment than students in the Dissatisfied Group.
The results suggested that it may be possible to predict the degree of a student's curriculum satisfaction from three of the 11 occupational group scales, namely, IV, V, and VII and three non-occupational scales, SL, OL, and AACH on the SVIB. Obviously, the tentative hypotheses generated by this pilot study of the relationship between interest and curriculum satisfaction need to be investigated in a study using longitudinal data, design strategy, and a consideration of additional variables such as sex and social class.
REFERENCES


Matsumura, Reiko & Schwab, E. A compilation of data on activities in the area of student services. Unpublished material, Library in the Office of the Dean of Students, Western Michigan University, 1967.


Wright, J. C. & Scarborough, B. Relationship of the interests of college freshmen to their interests as sophomores and as seniors. Educ. psychol. Measmt., 1958, 18, 153-158.
APPENDIX A

CURRICULUM SATISFACTION BLANK

For each question choose one of the following answers and mark the corresponding number on the separate sheet with a pencil.

A. How well do you like your curriculum?

1. I hate it.
2. I dislike it.
3. I don't like it.
4. I am indifferent to it.
5. I like it.
6. I am enthusiastic about it.
7. I like it better than I could possibly like anything else.

B. How do you think you compare with other people in regard to the course works in your curriculum?

7. No one likes his course better than I like mine.
6. I like my course much better than most people like theirs.
5. I like my course better than most people like theirs.
4. I like my course about as well as most people like theirs.
3. I dislike my course more than most people dislike theirs.
2. I dislike my course much more than most people dislike theirs.
1. No one dislikes his course more than I dislike mine.

C. How much of the time do you feel satisfied with your curriculum?

7. All of the time.
6. Most of the time.
5. A good deal of the time.
4. About half of the time.
3. Occasionally.
2. Seldom.
1. Never.

D. How do you feel about your curriculum?

1. I would change my course at once if I had anything...
else to which I could change.
2. I could change to almost any other course which was practical.
3. I would like to change my course.
4. I would like to change my course for another somewhat similar to it.
5. I am not eager to change my course but I would do so if it were more practical.
6. I can not think of any course for which I would exchange mine.
7. I would not exchange my course for any other.

E. Have you already planned what you are going to do after graduation?
1. Yes. (Write the name of the occupation or indicate what you will be doing in the space provided on the answer sheet.)
2. No. (Indicate why in the space provided on the answer sheet.)
## APPENDIX B

### SATISFIED GROUP AND DISSATISFIED GROUP BY CURRICULUM

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<tr>
<th>Curriculum</th>
<th>Satisfied</th>
<th>Dissatisfied</th>
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<tr>
<td>General Curriculum</td>
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<tr>
<td>Liberal Arts</td>
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<tr>
<td>Medical Technology</td>
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<td>Pre-Christian Ministry</td>
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