

A COMPARISON OF INTERESTS FOR
SELECTED COLLEGE MAJORS AT
SOUTHEASTERN STATE COLLEGE

By

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PREFACE

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CHAPTER I

INTRODUCTION

The Problem

One of the questions of major concern to the college student and those contributing to his education is whether or not he has chosen the most suitable academic major in relation to his abilities and interests. Each year many college graduates begin new vocations and professions only to find that they have chosen the wrong career. With proper advisement they might have selected a more suitable program of study. Therefore, expertise in use of an instrument that would reliably give direction to a student's interest would be most helpful to both advisor and advisee.

An underlying assumption is that if a person's interests are similar to the interests of other people who have common academic majors, he will derive more satisfaction doing the same or similar kind of work. That is, if a person's general pattern of interests is most similar to, say, elementary educators, there is a high probability that he will derive more satisfaction from work as an elementary educator or some closely related field than he would from other occupations. There has been considerable research to substantiate this proposition. In order, then, for an advisor to be more effective in the interpretation of his advisee's interests as measured by tests, he needs some sort of

guide to aid him in giving the advisee a comparison of his interests with known patterns of various college majors.¹

This study presents a guide for the advisor to use in interpreting the individual profile of the Kuder Preference Record--Vocational. In order to facilitate a meaningful interpretation of the test data to the advisee, it is often better for the advisor to speak in terms of several academic majors in addition to descriptive terms (such as mechanical, artistic, persuasive) whose meanings are often vague to the advisee. There is, therefore, a need for a composite profile of many academic majors based on real test data which the advisor may feel confident in using.²

Need for the Study

The major purpose of advisement is to assist the student in selecting a realistic goal based upon his interests, attitudes, and abilities--a goal for which he has the greatest potential for achievement and happiness.

Discussing the need for improved counseling, O'Donnell³ stated:

The need for more effective preadmission counseling is evident. A student often chooses his major because of its romantic appeal (frequently based upon occupational earning capacity) rather than as a result of a realistic analysis of the demands of the major and the student's own abilities and interests. This kind of unrealistic choice of major which results in frustration and failure on the part of the student can be corrected, at least in part, by better preadmission counseling.

The need for constant improvement of counseling and advisement techniques justifies extensive research concerning specific major areas. If graduates in an academic major area possess unique interest characteristics by which they can be differentiated from graduates in other

major areas, knowledge of these distinguishing traits would greatly enhance the predictive validity of freshmen advisement. More precise counseling techniques would result in a decrease in the cost of developing vocational competency and tend to reduce attrition rates in many programs.

Purposes of the Study

The purposes of this study are (1) to measure selected interests of female college graduates in each of the following academic areas: business, elementary education, English, foreign language, mathematics, social studies, music, and home economics; (2) to identify those specific areas of interest which significantly discriminate between female students in the eight areas; (3) to measure selected interests of male college graduates in each of the following academic areas: business, elementary education, mathematics, physical education, social studies, science, industrial arts, and English; (4) to identify those specific areas of interest which significantly discriminate between male students in the eight areas.

Basic Assumptions

The basic assumption of this study is that graduates with specific majors possess certain interest characteristics which are unique to that major. Furthermore, it is assumed that they could be considered as being representative of people employed under a particular major.

Hypotheses

The hypotheses in the investigation are (1) female graduates in business, elementary education, English, foreign language, mathematics, social studies, music, and home economics can be differentiated by certain interest traits; (2) male graduates in business, elementary education, mathematics, physical education, social studies, science, industrial arts, and English can be differentiated by certain interest traits.

Definition of Terms

For clarification of terms used in this study, the following terms and definitions were taken from the administrative manual of the Kuder Preference Record--Vocational Form C.⁴

Mechanical: Indicates a preference for work with machines and tools.

Computational: Indicates a preference for working with numbers.

Scientific: Indicates a preference for discovering new facts and solving problems.

Persuasive: Indicates a preference for meeting and dealing with people, and promoting projects or things to sell.

Artistic: Indicates a preference for doing work with one's hands. It is usually work that has "eye appeal" involving attractive design, and material.

Literary: Indicates a preference for reading and writing.

Musical: Indicates a preference for going to concerts, playing instruments, singing, or reading about music and musicians.

Social Service: Indicates a preference for helping people.

Clerical: Indicates a preference for office work that requires precision and accuracy.

Outdoor: Indicates a preference for work that keeps one outside most of the time, usually dealing with animals and growing things.

Limitations of the Study

The group studied was limited to those students who had graduated from Southeastern State College since 1965, who had enrolled as freshmen at Southeastern and therefore had a profile of the Kuder Preference Record--Vocational on file at that institution.

The group was further delimited to the eight major departments that had produced the most female graduates since 1965, and the eight major departments that had produced the most male graduates since 1965.

FOOTNOTES

¹J. F. McGowan, R. Collis, and G. A. Rybolt, "Coding the Kuder--An Aid to Interpretation of the Kuder Preference Record--Vocational," Testing and Counseling Service Report, Vol. 16, No. 3, University of Missouri, 1962.

²Ibid., p. 1.

³Patrick I. O'Donnell, "Appropriate Choice of College Student Retention," California Journal of Educational Research, 20 (January, 1969), 24-30.

⁴G. F. Kuder, Kuder Preference Record: Administrator's Manual, Form C. Chicago: Science Research Associates, 1960.

CHAPTER II

REVIEW OF THE LITERATURE

Interest Defined

Defining the term interest is as elusive a task as that encountered by Hill¹ as he attempted to define and develop a comprehensive theory of learning which the proponents of the various schools of thought would find acceptable. Most scholars hailed his efforts as being highly sophisticated and commendable; yet, with the possible exception of Skinner,² most would say he fell far short of attaining his desired goal.

According to Bingham,³ an interest is a

. . . tendency to become absorbed in an experience and to continue it, while an aversion is a tendency to turn away from it to something else. Interests and aversions are dynamic. The tendencies are there even when one is busy with other things and has no chance to indulge in them.

Interests must be defined not only in terms of the things and activities which draw one's attention most strongly and give him the most satisfaction but also in terms of the degree to which preoccupation with these things and activities distracts attention from competing objects of interest. Thus, the activities in which a person engages because they appeal to him are expressions of interest.

Theories of Interest

Theoretical formulations of interest measurement are difficult to establish for essentially three reasons. Darley⁴ states these as:

(1) The measure of the meaning of life is hard to take. Satisfaction and success have many definitions. As criteria, they are multi-dimensional. (2) Extensive and adequate empirical data have become available only within the last fifteen years, although the history of measurement in this field covers a much larger span. And (3), since we consider interest measurement as a special case of motivational theory, our formulations can rise no higher than the level of psychological theory in general - particularly in the realms of motivation and personality. This level, of course, leaves something to be desired either in completeness or in common acceptance across the entire field of psychology.

Although research in the field of interest has been widespread, one concerned with educational-vocational problems is fortunate in having the major contribution regarding vocational interests concentrated in a relatively small number of sources. Omitting early research articles, one can turn to Fryer⁵ for a comprehensive review of major investigations in the field of interests prior to 1931. Fryer distinguished between interests and motivations as separate aspects of human response. This distinction, which he suggested, disappeared from the literature almost immediately. Thereafter, and in all subsequent writing, interests are treated as a special case of motivational theory.

E. K. Strong⁶ did not repeat the work of Fryer, but instead followed through from where his predecessors left off. Strong constructed the Vocational Interest Blank (SVIB) and has continuously subjected it to research, revision, and extension for the past three decades, a rare example of thoroughness. He published his first edition of the blank in 1927, after several preliminary studies had shown the validity of the approach. According to Super⁷ it is without

question one of the most thoroughly studied and understood psychological instruments in existence today. Strong's basic theory is that when other factors such as ability are equal, a person will be much happier and presumably more successful in an occupation in which he finds a large number of men with interests similar to his own.⁸

Strong asserts that an interest is not a separate psychological entity, but merely one of several aspects of behavior. He considers both acceptances and rejections of the various items in his inventory as important, on the assumption that interests include the things we despise as well as those things we like, and that we are disinterested only in things and areas which arouse no emotion of either sort.⁹

Darley's¹⁰ experience in using this instrument has led him to believe that interests are by-products of the personality and its development and maturation. But, he rejects the theory that interests develop by recapitulation and that they arise chiefly from successful behavior which wins social approval.

Carter's¹¹ view of the theory of interests includes the various conclusions reached by others. He states that:

A number of studies by Lentz and Nickel and by Carter contain explicit suggestions that interests are properly regarded as traits of personality. The series of studies from the University of California, . . . indicates that interests are not independent of the intelligence, although they are primarily affective phenomena.

The lack of close relationship between interests and the abilities is clearly seen, but its significance has not been fully appreciated. . . . The persistent view that interests need not be measured directly but should rightfully be inferred through studies of abilities continues to find expression in popular articles.

. . . Many such contradictions indicate that a number of variables including age, specific experience, social and economic group differences, and occupational experiences

must be studied more intensively if we are to understand the influence of each upon the development of vocational interests.

In an article Bordin¹² presented his theory as follows:

It can be observed that the vocational goals and aspirations of an individual form one of the mainsprings of his action. . . . In answering a Strong Vocational Interest test an individual is expressing his acceptance of a particular view or concept of himself in terms of occupational stereotypes.

Bordin points out that the older an individual becomes, the more likely he is to become occupationally stable and refuse to face the conditions that would suggest a change in occupation or self-concept.

Super postulates his theory in a quotation from Appraising Vocational Fitness.¹³

Interests are the product of interaction between inherited attitudes and endocrine factors on the one hand, and opportunity and social evaluation on the other. Some of the things a person does well bring him satisfaction of mastery or the approval of his companions and result in interests. Some of the things his associates do appeal to him and through identification, he patterns his interests and his actions after them. If he fits the pattern reasonably well, he remains in it; but if not, he must seek another identification and develop another self-concept and interest pattern. His mode of adjustment may cause him to seek certain satisfactions, but the means of achieving these satisfactions varies so much from one person with the set aptitudes and in one set of circumstances, to another person with other abilities and in another situation that the prediction of interest patterns from modes of adjustment is hardly possible. Because of the stability of the hereditary endowment and the relative stability of the social environment in which any given person is reared, interest patterns are generally rather stable. Their stability is further increased by the multiplicity of opportunities for tryouts, identification, and social approval in years before adolescence.

By adolescence, most young people have had an opportunity to explore social, linguistic, mathematical, technical and business activities to some extent. They have sought to identify with parents, with other adults and schoolmates and have rejected some and accepted others of these identifications. Self-concepts have begun to take definite form. For these reasons, interest patterns begin to crystallize by early adolescence and the exploratory experiences of the adolescence years may, in most cases, merely clarify and

elaborate upon what has already begun to take shape. Some persons experience significant changes during adolescence and early childhood, but these are most often related to endocrine changes and less often to changes in self-concept resulting from having attempted to live up to a misidentification and having to fit into an inappropriate pattern. Vocational interest patterns generally have a substantial degree of permanence at this stage. For most persons, adolescent exploration is an awakening of something that is already there.

No theory of interests has been constructed without taking into account motivation and personality. At present there is no one such theory which adequately explains all of the phenomena observed in measured interests.

Measures of Interests

From an experimental standpoint, measured interests have been given more attention than have the other methods of judging and estimating interests. The amount of research done by Strong upon the SVIB makes it almost unique in the field of measurement. He has spent his professional lifetime researching this instrument and has directed many of his graduate students to do the same. Kuder to a lesser degree has given his Preference Record paralleled singleminded attention in his attempt to provide scores on a number of basic preferences having differential degrees of significance for a variety of occupations.¹⁴

Concerning the amount of high-level significant work in the measurement of interests, Super expounds:¹³

Facts would seem to imply that much has been done in the field of interest measurement, and much activity implies considerable achievement. . . . The fact is, that of the 16 interest inventories now available, only two have been sufficiently studied for practical use. . . . And, if we apply the somewhat more exacting standards advocated by some psychologists, only one of these instruments can be really acceptable.

The Vocational Interest Blank (SVIB) constructed by Strong has undergone continuing research, revision, and extension. He published his first edition of the blank in 1927, after several preliminary studies had shown the validity of the approach.¹⁵

Strong developed his blank primarily as a means of helping college students decide upon appropriate courses of study and suitable vocations. It reveals likes and dislikes for the five following factors: Science, People, Language, Things vs. People, and System Contact (Business). What a student gets from the SVIB is an indication of whether or not his own interest, his own likes and dislikes, his own preferences and aversions correspond to or do not correspond to those of men or women in the occupations designated. For example, it tells the student whether his interests are similar, or dissimilar, to those of successful lawyers, engineers, accountants, and so on. Strong's basic theory, well substantiated by empirical facts which he has assiduously collected for more than thirty-five years, is that when other factors such as ability are equal, a person will be much happier and presumably more successful in an occupation in which he finds a large number of men with interests similar to his own.¹⁶

The SVIB can be scored for about 60 occupations, but there are nearly 30,000 jobs in the "Dictionary of Occupational Titles" and while many of these are more specific than those in Strong's blank, and could be combined to make a smaller number, it would still be true that interest in most occupations cannot be scored on Strong's blank. It is manifestly unwise, then, to focus solely on scores of specific occupations. This was one of the considerations that led Frederic Kuder to a new approach and to the ultimate development of his

Preference Records. In the Preference Records an attempt is made to provide scores on a number of basic preferences having differential degrees of significance for a variety of occupations. When the scores in these areas are obtained, the subject or his advisor, or both together, are supposed to be able to use them in deciding upon occupations suitable for serious consideration. The time-saving features, in contrast to Strong's approach, lies in the supposition that the preferences measured by the Kuder Preference Records are relatively independent and that, in differently weighed combinations, they can be applied to almost any occupation.

The Kuder Preference Record--Vocational yields ten different scores. These indicate preferences for activities described as Outdoor, Mechanical, Computational, Scientific, Persuasive, Artistic, Literary, Musical, Social Service, and Clerical. The score on each scale is supposed to indicate the degree of a subject's preference for the type of activities involved in the designated area. Raw scores are interpreted in terms of their percentile ranks, separate norms being available for high school students and for adults. Kuder suggests that an individual should seriously consider entering any occupation involving the activity indicated by a scale on which he receives a percentile rank of 75 or over and that he should seriously consider staying out of any occupation involving the activity indicated by a scale on which he receives a percentile rank of 25 or less.

This gives us the background for Kuder's approach. He wanted scales which would not correlate with each other. Therefore, he developed his scales by methods which would assure their maximal independence.¹⁷

Discussing the validity of the Kuder, Taylor¹⁸ states:

When one does research with the Kuder test or evaluates research others have done, it is important that he keep in mind the distinctive characteristics of the scores. For one thing, the validity of the test as a measure of characteristics actually involved in any occupation is not guaranteed.

There does not seem to be any simple relationship of any consequence between Kuder interest scores and measures of achievement or success such as grades. In his review of the Kuder Preference Record, Super¹⁹ summarized the seven studies then available which dealt with the matter of prediction of achievement from interests. He commented,

These results, taken as a whole, are essentially in agreement with those reported for Strong's Blank. Grades tend to be related to appropriately measured interests in some respects, but not in others, usually depending on whether or not there is sufficient range of interest in the group in question. The predictive value of the Kuder, for educational achievement, is probably slightly greater than that of the Strong Blank.

Hake and Ruedisili²⁰ found that Kuder scores were only a minor factor in predicting college achievement. Phillips and Osborne²¹ reached essentially the same conclusion as to the prediction of college grades and found, further, that Kuder scores for those on scholastic probation and those not on probation did not differ significantly. Frandsen and Sessions²² using high school seniors as subjects, found a median rho of .27 between the rank orders of Kuder scales and of achievement in high school subjects. Perhaps techniques can be devised in the future which distinguish more clearly the fragile strands of relationship which seem to exist, or perhaps the problem can be conceptualized in other terms; but for the present suspended judgment seems to be in order.

Determinants of Interests

Donald Super, writing for the Encyclopedia of Educational Research, listed six factors that may be possible determinants of interests. These include socio-economic status, intelligence, and aptitude, social role expectations, personality, and experience.

Socio-economic Status

Jordaan²³ discovered that interest may be inhibited by social status. Boys, regardless of socio-economic status, have scientific and technical interest, except when their fathers are executives; then, their interest is diverted into non-technical, administrative areas. And Hyman²⁴ found that social status when considered alone is not related to interest, but that social status and intelligence produced a relationship in his study of bright middle-class boys vs. bright upper-middle-class boys.

Intelligence and Aptitude

Tyler²⁵ reported that ability and interest are related in boys, but not in girls, from her study of elementary-school children. Interests and aptitudes are related according to Wesley²⁶ and his colleagues who sampled college men. Their findings were similar to Tyler's.

Social Role Expectations

Super²⁷ says this:

It seems an oversimplification to think of aptitude, social expectation, or need and value as the sole determinant of interests. Actually, all of these combine to determine

interests. What a person does well and what people expect of him limit the activities in which his needs and values will manifest themselves and the preferences which they lead him to formulate. They limit also the development of his interests. . . . And what a person needs and what he can do limit his responses to social role expectations. No theory of interests which fails to give due emphasis to all three types of factors seems likely to stand the test of time or to prove very helpful to educators.

Personality

Darley and Hagenah²⁸ rejected aptitude explanations and concluded that interest development is really a part of the development of personality. Miller²⁹ agreed; he said theories must assume that abilities, interest, and other personality factors are important correlates or determiners of behavior.

Experience

Experiences gained in college does affect interests, according to Matteson³⁰ who retested students after two years in college. Herzberg and Russell³¹ reported that new workers in an occupational field made higher scores on selected scales than did their experienced colleagues working in the same occupation.

Summary

Psychological research in the field of interests indicates that the average adult has his own characteristic pattern of interests, and that people in the same occupation tend to have similar patterns of interests. The interests of children are usually short-lived and changeable. Yet research indicates that there is a tendency for patterns of young people's interests to become established generally

during the secondary-school years. The average young person, by the time he reaches the age of seventeen, has developed his own characteristic pattern of interests.

Research further indicates that there are as many theories of interest as there are researchers in the field and that authorities have a difficult time agreeing upon what factors determine one's interests.

Educators should utilize as many techniques as possible in helping the student select an academic major for which he is best suited. Research that has been conducted provides sufficient evidence to alert those who are responsible for student advisement to the potential usefulness of using interest traits as an additional aid to counseling.

Research tends to verify the belief that students in various major areas do possess certain interest traits to a greater or lesser degree than do students in other areas. For example, in the areas with which this study was concerned, certain traits were identified as being common to a particular major and not to others.

On the basis of the findings in previous studies using the SVIB to differentiate among various occupational groups, it appeared reasonable to assume that a detailed study using the more common Kuder Preference Record would identify interest factors of students in various major areas of study and differentiate them from other majors, thus providing a means of identifying a program or a cluster of programs in which the individual has the greatest potential for happiness and success.

FOOTNOTES

¹Winfred F. Hill, Learning: A Survey of Psychological Interpretations (San Francisco, 1963), pp. 129-151.

²Ibid.

³Walter V. Bingham, Aptitudes and Aptitude Testing (Harper and Brothers, 1937), p. 21.

⁴John G. Darley, "The Theoretical Basis of Interests," The Strong Vocational Interest Blank - Research and Uses, ed. William L. Layton (University of Minnesota Press, Minneapolis, 1955), p. 118.

⁵Douglas Fryer, Measurement of Interests (New York: Holt, 1931).

⁶Edward K. Strong, Jr., Vocational Interests of Men and Women (Stanford University Press, 1943).

⁷D. E. Super, "The Kuder Preference Record in Vocational Diagnosis," Journal of Consulting Psychology, 11 (1947), pp. 184-193.

⁸Strong, p. 21.

⁹Strong, p. 23.

¹⁰John G. Darley and Theda Hagenah, Vocational Interest Measurement (Minneapolis: University of Minnesota Press, 1955).

¹¹Harold D. Carter, "Vocational Interests and Job Orientation," Journal of Applied Psychology, Monogram No. 2 (Stanford, California: Stanford University Press), p. 12.

¹²E. S. Bordin, "A Theory of Vocational Interests as Dynamic Phenomena," Educational Psychological Measurement, 3 (1943), pp. 297-307.

¹³Donald E. Super, Appraising Vocational Fitness (New York: Harper and Row, 1962), pp. 376-476.

¹⁴Ibid.

¹⁵Darley, pp. 134-193.

¹⁶Super, pp. 137-138.

¹⁷ Anne Anastasi, Psychological Testing (3rd ed., New York: The Macmillan Company, 1969), pp. 468-473.

¹⁸ Ibid., pp. 473-479.

¹⁹ Leona E. Taylor, The Psychology of Human Differences (New York: Appleton-Century-Crofts, 1965), p. 187.

²⁰ D. E. Super, "The Kuder Preference Record in Vocational Diagnosis," Journal of Consulting Psychology, 11 (1947), pp. 184-193.

²¹ D. T. Hake and C. H. Ruedisili, "Predicting Subject Grades of Liberal Arts Freshmen with the Kuder Preference Record," Journal of Applied Psychology, 33 (1949), pp. 553-559.

²² W. S. Phillips and R. T. Osborne, "A Note on the Relationship of the Kuder Preference Record Scales to College Marks, Scholastic Aptitude and Other Variables," Educational Psychological Measurement, 9 (1949), pp. 331-339.

²³ Arden Frandsen and A. D. Sessions, "Interests and School Achievement," Educational Psychological Measurement, 13 (1953), pp. 94-101.

²⁴ J. P. Jordaan, "The Relationship Between Socio-economic Status and the Vocational Interests of Mechanically Gifted Boys" (unpub. Doctor's dissertation, 1949).

²⁵ Bernard Hyman, "The Relationship of Social Status and Vocational Interests," Journal of Counseling Psychology, 3 (1956), pp. 12-16.

²⁶ Leona E. Tyler, "The Relationship of Interests to Abilities and Reputation Among First Grade Children," Educational Psychological Measurement, 11 (1951), pp. 255-264.

²⁷ S. M. Wesley et al., "The Intra-individual Relationship Between Interest and Ability," Journal of Applied Psychology, 34 (1950), pp. 193-197.

²⁸ Donald E. Super and P. B. Bachrach, Scientific Careers and Vocational Development Theory (1957), p. 135.

²⁹ Darley, pp. 13-14.

³⁰ Adam W. Miller, Jr., "Learning Theory and Vocational Decisions," Personnel and Guidance Journal, XLVII (September, 1968), pp. 18-23.

Ross W. Matteson, "Experience-Interest Relationships as Measured by an Activity Check List," Journal of Counseling Psychology, 2 (1955), pp. 13-14.

³² Fredrick I. Herzberg and D. Russell, "The Effects of Experience and Change of Job Interest on the Kuder Preference Record," Journal of Applied Psychology, 37 (1953), pp. 478-481.

CHAPTER III

PROCEDURES

Introduction

A description of the procedures used in developing and conducting this research project is found in this chapter. Discussion of the methods used will be under the following topical headings: Description of the Testing Instrument, Collection of the Data, and Analysis of Data.

Description of the Testing Instrument

The Kuder Preference Record-Vocational, Form C, is used at the college sampled to test each freshman concerning his interests upon entry into college. This test consists of 168 groups of statements subdivided into three activities each. The students are instructed to read the list of all three activities in a group, and to mark the one activity that they like the most and the one activity they like the least. The raw scores are not independent. The scores are derived from responses to statements presented in triad. Each statement represents one scale and is compared with a statement representing another scale. In many triads a tally for one area precludes a tally in another area, thus the tally of one scale may be said to be made at the expense of another scale. The answer sheets are either machine or hand scored and the raw and percentile scores are then transferred to

a profile sheet that contains ten columns representing ten distinct areas of interest. In this manner, an individual interest profile is constructed for each student.

The Kuder Preference Record-Vocational yields ten different scores. These indicate preferences for activities described as Outdoor, Mechanical, Computational, Scientific, Persuasive, Artistic, Literary, Musical, Social Service, and Clerical.

For clarification of terms used in this study, the following words and their definitions were taken from the administrative manual of the Kuder Preference Record-Vocational, Form C.

Factor A: Outdoor. Indicates a preference for work that keeps one outside most of the time, usually dealing with animals and growing things.

Factor B: Mechanical. Indicates a preference for working with machines and tools.

Factor C: Computational. Indicates a preference for working with numbers.

Factor D: Scientific. Indicates a preference for discovering new facts and solving problems.

Factor E: Persuasive. Indicates a preference for meeting and dealing with people, and promoting projects or things to sell.

Factor F: Artistic. Indicates a preference for doing work with one's hands. It is usually work that has "eye appeal" involving attractive design and material.

Factor G: Literary. Indicates a preference for reading and writing.

Factor H: Musical. Indicates a preference for going to concerts, playing instruments, singing, or reading about music and musicians.

Factor I: Social Service. Indicates a preference for helping people.

Factor J: Clerical. Indicates a preference for office work that requires precision and accuracy.

A number of studies have been conducted concerning the validity of this test. Rosenberg¹ examined high school pupils in the ninth grade, and later in the twelfth grade obtaining test-retest correlations ranging between .47 and .75, a result corroborated by Herzberg and Bouton.² Reid's³ work with college level subjects resulted in a median retest correlation of .77 over a 15-month interval.

Validity is a complicated consideration in respect to any psychometric device, and is an exceptionally complex matter in considering interest inventories. In the present Kuder Preference Record-Vocational manual, as in earlier ones, mean profiles for small, not demonstrably representative occupational groups constitute the main evidence of validity.⁴ Jones⁵ summarized the Kuder by saying:

A fair appraisal of the KPR-V would seem to that it is an excellent inventory for preliminary surveys of interest in counseling and in school guidance and occupational instruction.

Collection of Data

The study was conducted with profiles of students who had graduated from Southeastern State College since 1965, who had enrolled as freshmen at that institution, and therefore had a profile of the Kuder Preference Record-Vocational on file at that school. Since the study involved only recent graduates, and since some of the departments

within the college were quite small, a significant number of subjects was not available in some academic major areas. The groups were divided by sex and limited to the eight departments that had produced the largest number of graduates since 1965.

The present Kuder Preference Record-Vocational manual suggests using only the profiles having verification scores ranging from 38-44. The reporter strictly adhered to this suggestion. The verification or honesty scale is a systematic attempt to identify subjects who try or actually succeed in faking their responses on the Kuder, or who misunderstand the directions and do not follow them exactly.

Southeastern State College obtains a large number of its students from southeastern Oklahoma and the graduates from that institution may well represent that portion of the state, but no effort was made to limit the subjects to any particular area or region. Indeed, the only criterion for inclusion was that the subject had a valid Kuder profile on file and had graduated from Southeastern State College since 1965.

Analysis of Data

The basic assumption of this study was that students with specific academic majors possess certain interest characteristics which are distinctive to that major. The problem becomes one of classifying the student according to a pre-determined profile. The discriminant function was used for this purpose.

The discriminant function is a statistical technique designed to provide maximum discrimination between groups and to compute the probability of an individual belonging to each group.⁶

Once heterogeneity of interest traits among the eight groups was established by use of the discriminant function, an analysis of variance was used to identify those specific characteristics on which they differed. The resulting F-ratios were used to determine the significance of those differences.

The analysis of variance is computed by analyzing sample data in such a way that a statistic F is generated. This means that the statistic is subsequently interpreted for statistical significance from a probability table that indicates the probability that an observed mean difference or more extreme mean difference could be attributed to chance alone. If the calculated F value is sufficiently large, the null hypothesis is rejected and the researcher concludes that the samples under investigation are not drawn from the same population.

All computations were performed by computer, and raw scores were used in the analysis. Since standard scores are more coarsely grouped than the original raw scores, the use of standard scores would involve a slight loss of information. For this reason, no attempt was made to discriminate among the eight groups on the basis of standard scores.

FOOTNOTES

¹ Nathan Rosenberg, "Stability and Maturation of Kuder Interest Patterns During High School," Educational and Psychological Measurement, 13 (August, 1953), pp. 449-458.

² Fredrick Herzberg and Authur Bouton, "A Further Study of the Stability of the Kuder Preference Record," Educational and Psychological Measurement, 14 (August, 1954), pp. 326-331.

³ John W. Reid, "Stability of Measured Kuder Interests in Young Adults," Journal of Educational Research, 45 (December, 1951), pp. 307-312.

⁴ Jerome L. Jones, Buros Fifth Mental Measurements Yearbook (Highland Park, N. J.: Gryphon Press), 1960.

⁵ Ibid.

⁶ J. E. Wert, C. O. Neidt, and S. J. Ahmann, Statistical Methods in Educational and Psychological Research (Appleton-Century-Crofts, Inc.), 1954.

CHAPTER IV

RESULTS OF STATISTICAL ANALYSIS

Introduction

The statistical analyses and an interpretation of the data collected to identify the typical interest characteristics which are distinctive to college graduates in eight academic major areas are presented in this chapter. The eight academic areas reported for females are business, elementary, English, foreign language, mathematics, social studies, music, and home economics. The eight academic areas reported for males are business, elementary, mathematics, physical education, social studies, science, industrial arts, and English. All data included in the analyses were obtained from students' responses to the items in Kuder's Preference Record-Vocational, Form C.

The population studied was limited to those students who had graduated from Southeastern State College since 1965, who had enrolled at that institution as freshmen, and therefore, had a profile of the Kuder Preference Record-Vocational on file at that school. The group was further delimited to the eight major areas of study that contained the largest number of graduates. A separate analysis was made for both male and female students and no comparison was made between the two.

Since the first purpose was to determine whether students could be classified by type of major on the basis of interest traits, a discriminant analysis technique was used in the original analysis. Each

student's raw score from the ten variables of the Kuder was combined with scores of others who had graduated with the same major. The scores were then used to compute a discriminant function for each variable within each group and each group was compared with the other seven groups. In this manner, a composite interest profile was established and used as a basis for individual classification of subjects. On the basis of scores on the ten interest factors, each individual was classified as belonging to one of the eight groups according to how closely his interests resembled the composite profile that had been established for that group.

Comparison of Female Analyses By Majors

The discriminant analysis yielded a Generalized Mahalanobis D^2 statistic of 409.27 which, when interpreted as chi-square with 70 degrees of freedom, indicated a highly significant difference among the eight groups.

As may be seen in Table I, the application of the discriminant function revealed distinct differences in the total interest of the eight groups but gave no indication of which factors were contributing to the discrimination. In order to identify specific factors on which the discrimination was based, an analysis of variance was used to test significant group mean differences on each of the ten variables involved.

Table II reveals the results of the analysis for each major area when it is compared to the other seven majors. The cells of the matrix contain the specific factors of the Kuder that significantly differentiate one academic major from another. The reader may turn to Table II

TABLE I

DISCRIMINATE FUNCTION CLASSIFICATION OF
FEMALE STUDENTS BY ACADEMIC MAJOR

Academic Major	Discriminate Function Classification								n	%
	Bus.	Elem.	Eng.	For. Lang.	Math.	Soc. Stu.	Mus.	Home Ec.		
1. Business	14*	3	3	0	5	2	2	2	31	46
2. Elementary	10	18*	6	7	8	13	8	13	83	22
3. English	2	1	22*	0	0	2	2	0	29	76
4. Foreign Language	2	0	4	10*	0	0	2	4	22	45
5. Mathematics	0	0	0	0	20*	2	2	2	26	77
6. Social Studies	0	4	9	0	2	6*	2	4	27	22
7. Music	2	0	2	0	0	0	19*	0	23	83
8. Home Economics	2	0	0	2	2	2	0	12*	20	60

* Denotes the cells containing the number of similar profiles distinctive to the corresponding academic majors.

n= The number of female subjects sampled in each of the academic areas.

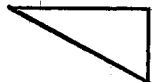
%= The percent of subjects that had similar profiles in relation to the total number sampled for that group.

The remaining cells represent the total number of subjects that had profiles more similar to the academic majors listed in the columns.

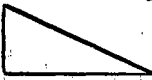
TABLE II

SIGNIFICANT FACTORS THAT DIFFERENTIATE
BETWEEN FEMALE ACADEMIC MAJORS

	Bus.	Elem.	Eng.	For. Lang.	Math.	Social Studies	Music	Home Economics
Business		A I,J	A,G,I C,J	G,I J	A,C,D H,J	A,I C,M,J	H D,J	F J
Elementary			E,G C,J	G	C,D H	E C,J	H D,I	F A
English				C G	C,D,J E,G,H	D,I G	C,H D,E,G	C,F,J A,G
Foreign Language					C,D,J G,H,I		H D,G,I	J G
Mathematics						I C,D,J	H C,D	F A,C,D
Social Studies							H A,D,I	C,F,J A,I
Music								C,D,A H
Home Economics								



Represents that part of the cell that contains the significant factors for the majors listed in the columns (vertically).



Represents that part of the cell that contains the significant factors for the majors listed in the rows (horizontally).

and observe that when female business students were compared to female elementary students, factors A, I, and J are in the cell constructed at the intersection of the row (business) and the column (elementary).

These were the significant factors of the Kuder that differentiated between those specific majors when the analysis of variance technique was applied.

Results of the analysis of variance are reported according to the following group comparisons:

Female Students

1. Business majors vs. Elementary majors
2. Business majors vs. English majors
3. Business majors vs. Foreign Language majors
4. Business majors vs. Mathematics majors
5. Business majors vs. Social Studies majors
6. Business majors vs. Music majors
7. Business majors vs. Home Economics majors
8. Elementary majors vs. English majors
9. Elementary majors vs. Foreign Language majors
10. Elementary majors vs. Mathematics majors
11. Elementary majors vs. Social Studies majors
12. Elementary majors vs. Music majors
13. Elementary majors vs. Home economics majors
14. English majors vs. Foreign Language majors
15. English majors vs. Mathematics majors
16. English majors vs. Social Studies majors
17. English majors vs. Music majors

18. English majors vs. Home Economics majors
19. Foreign Language majors vs. Mathematics majors
20. Foreign Language majors vs. Social Studies majors
21. Foreign Language majors vs. Music majors
22. Foreign Language majors vs. Home Economics majors
23. Mathematics majors vs. Social Studies majors
24. Mathematics majors vs. Music majors
25. Mathematics majors vs. Home Economics majors
26. Social Studies majors vs. Music majors
27. Social Studies majors vs. Home Economics majors
28. Music majors vs. Home Economics majors

Business Majors Vs. Elementary Majors

The fact that there were distinct differences in interest traits of business majors and elementary majors was established by the discriminate function, but that analysis did not indicate which interest factors were contributing to the differences. An analysis of variance was used to determine the specific variables which were significantly different between the two groups. The resulting F-ratios obtained on each variable are given in Table III. Group means on each variable are also reported in the same table for comparison purposes.

The interest differences between the business majors and the elementary majors were found to be in Factors A, I, and J. Examination of the mean scores for the two groups on these traits shows that the elementary majors scored significantly higher on Outdoor and Social Service. Conversely, the business majors scored higher on the clerical variables as may be witnessed in Table III.

TABLE III
 GROUP MEANS AND F-RATIOS, FEMALE BUSINESS
 MAJORS VS. ELEMENTARY MAJORS

Factor	Group Means		F
	Bus. (n=31)	Elem. (n=83)	
A. Outdoor	25.96	32.50	5.97*
B. Mechanical	20.32	21.93	.81
C. Computational	26.35	24.02	1.68
D. Scientific	29.06	30.13	.17
E. Persuasive	35.90	33.12	1.27
F. Artistic	26.06	28.09	1.25
G. Literary	19.38	20.27	.29
H. Musical	17.93	14.83	3.33
I. Social Service	46.54	56.02	12.24**
J. Clerical	74.96	58.78	29.31**

** Significant at .01 level of confidence (6.90 required).

* Significant at .05 level of confidence (3.94 required).

Business Majors Vs. English Majors, Female

An analysis of variance on each of the interest factors revealed those on which the two groups could be differentiated. The F-values obtained by the analysis of variance of the group means on each factor are shown in Table IV.

Inspection of the data in Table IV shows that business majors scored higher on the Computational and Clerical variables while the English majors scored higher on the variables Outdoor, Literary, and Social Service.

TABLE IV
 GROUP MEANS AND F-RATIOS, FEMALE BUSINESS
 MAJORS VS. ELEMENTARY MAJORS

Factor	Group Means		F
	Business (n=31)	English (n=29)	
A. Outdoor	25.96	32.06	6.24*
B. Mechanical	20.32	19.34	.30
C. Computational	26.35	17.37	22.14**
D. Scientific	29.06	26.55	.90
E. Persuasive	35.90	40.48	2.45
F. Artistic	26.06	25.65	.05
G. Literary	19.38	31.44	63.38**
H. Musical	17.93	15.65	.86
I. Social Service	46.54	53.73	6.11**
J. Clerical	74.96	49.31	54.46**

** Significant at the .01 level of confidence (7.12 required).

* Significant at the .05 level of confidence (4.02 required).

Business Majors Vs. Foreign Language Majors, Female

The F-values obtained by an analysis of variance and the mean scores of the two groups on each of the ten variables are given in Table V.

Very significant differences exist between the business group and the foreign language group on Factors G, I, and J. Examination of the mean scores on these factors shows the business majors scored significantly higher in Clerical and that the foreign language majors scored higher in both Literary and Social Service.

TABLE V
 GROUP MEANS AND F-RATIOS, FEMALE BUSINESS
 MAJORS VS. FOREIGN LANGUAGE MAJORS

Factor	Group Means		F
	Business (n=31)	F. Language (n=22)	
A. Outdoor	25.96	29.81	1.29
B. Mechanical	20.32	21.00	.07
C. Computational	26.35	22.18	3.54
D. Scientific	29.06	30.27	.10
E. Persuasive	35.90	38.00	.53
F. Artistic	26.06	29.45	2.51
G. Literary	19.38	27.90	23.07**
H. Musical	17.93	15.95	.56
I. Social Service	46.54	57.09	11.71**
J. Clerical	74.96	52.18	32.46**

** Significant at the .01 level of confidence (7.17 required).

* Significant at the .05 level of confidence (4.03 required).

Business Majors Vs. Mathematics Majors, Female

The interest differences between the business majors and the mathematics majors were found to be in Factors A, C, D, H, and J. Examination of the mean scores in Table VI for the two groups on these traits shows that the elementary education majors scored significantly higher on the Outdoor, Computational, and Scientific variables. Conversely, the business majors scored significantly higher on Musical and Clerical factors.

TABLE VI
 GROUP MEANS AND F-RATIOS, FEMALE BUSINESS
 MAJORS VS. MATHEMATICS MAJORS

Factor	Group Means		F
	Business (n=31)	Math, (n=26)	
A. Outdoor	25.96	36.61	8.81**
B. Mechanical	20.32	19.92	.02
C. Computational	26.35	34.84	15.75**
D. Scientific	29.06	41.00	10.85**
E. Persuasive	35.90	32.38	.98
F. Artistic	26.06	24.53	.34
G. Literary	19.38	19.53	.00
H. Musical	17.93	11.38	7.94**
I. Social Service	46.54	48.84	.35
J. Clerical	74.96	62.69	12.11**

** Significant at the .01 level of confidence (7.12 required).

* Significant at the .05 level of confidence (4.02 required).

Business Majors Vs. Social Studies Majors, Female

Group means, as reported in Table VII, were derived from the data concerning business majors and social studies majors. An analysis of this table reveals a significant F-value on variables A, C, H, I, and J. The social studies majors scored higher on Outdoor and Social Service. The business majors scored higher on Musical and Clerical when compared with social studies majors.

TABLE VII
 GROUP MEANS AND F-RATIOS, FEMALE BUSINESS
 MAJORS VS. SOCIAL STUDIES MAJORS

Factor	Group Means		F
	Business (n=31)	Soc. Studies (n=27)	
A. Outdoor	25.96	36.88	16.00 ^{**}
B. Mechanical	20.32	19.59	.13
C. Computational	26.35	19.92	9.6 ^{**}
D. Scientific	29.06	31.96	.82
E. Persuasive	35.90	38.77	.98
F. Artistic	26.06	27.59	.40
G. Literary	19.38	22.59	2.44
H. Musical	17.93	12.33	5.81 [*]
I. Social Service	46.54	59.81	20.31 ^{**}
J. Clerical	74.96	50.55	43.95 ^{**}

^{**} Significant at the .01 level of confidence (7.12 required).

^{*} Significant at the .05 level of confidence (4.02 required).

Business Majors Vs. Music Majors, Female

Group differences between the mean scores of business majors and music majors are shown by significant F-values on Factors D, H, and J. Comparison of the two groups on these factors, as shown in Table VIII, reveals the direction and the magnitude of the differences.

The business majors scored higher on the Scientific and Clerical factors, while the music majors scored higher on the Musical scale.

TABLE VIII
 GROUP MEANS AND F-RATIOS, FEMALE BUSINESS
 MAJORS VS. MUSIC MAJORS

Factor	Group Means		F
	Business (n=31)	Music (n=23)	
A. Outdoor	25.96	27.73	.32
B. Mechanical	20.32	20.34	.00
C. Computational	26.35	22.13	3.93
D. Scientific	29.06	20.73	7.69**
E. Persuasive	35.90	33.17	.74
F. Artistic	26.06	28.26	1.13
G. Literary	19.38	22.17	2.17
H. Musical	17.93	26.95	14.59**
I. Social Service	46.54	47.39	.05
J. Clerical	74.96	57.39	18.53**

** Significant at the .01 level of confidence (7.17 required).

* Significant at the .05 level of confidence (4.03 required).

Business Majors Vs. Home Economics Majors, Female

An analysis of variance on each of the interest factors revealed those on which the two groups could be differentiated. The F-values obtained by the analysis of variance and the group means on each factor are shown in Table IX.

Inspection of the data in this table shows that home economics majors scored higher on the Artistic scale but that the business majors scored significantly higher on the Clerical factor.

TABLE IX
 GROUP MEANS AND F-RATIOS, FEMALE BUSINESS
 MAJORS VS. HOME ECONOMICS MAJORS

Factor	Group Means		F
	Business (n=31)	Home Econ. (n=20)	
A. Outdoor	25.96	24.89	.21
B. Mechanical	20.32	20.79	.05
C. Computational	26.35	26.50	.00
D. Scientific	29.06	28.59	.02
E. Persuasive	35.90	38.50	.69
F. Artistic	26.06	34.29	12.08**
G. Literary	19.38	18.79	.09
H. Musical	17.93	13.00	3.28
I. Social Service	46.54	52.70	3.15
J. Clerical	74.96	63.29	10.69**

** Significant at the .01 level of confidence (7.17 required).

* Significant at the .05 level of confidence (4.03 required).

Elementary Majors Vs. English Majors, Female

Inspection of the data in Table X shows that these two groups could be differentiated by their mean scores on the Kuder Interest Inventory. Significant F-values were found on the Computational, Persuasive, Literary, and Clerical variables.

Further inspection reveals that when compared to English majors, elementary majors scored higher on Computational and Clerical, while higher scores on the Persuasive and Literary were shown for English majors.

TABLE X
 GROUP MEANS AND F-RATIOS, FEMALE ELEMENTARY
 MAJORS VS. ENGLISH MAJORS

Factor	Group Means		F
	Elementary (n=83)	English (n=29)	
A. Outdoor	32.50	32.06	.02
B. Mechanical	21.93	19.34	.20
C. Computational	24.02	17.37	14.41**
D. Scientific	30.13	26.55	2.32
E. Persuasive	33.12	40.48	8.05**
F. Artistic	28.09	25.65	1.80
G. Literary	20.27	31.44	45.30**
H. Musical	14.83	15.65	.31
I. Social Service	56.02	53.72	.74
J. Clerical	58.78	49.31	10.16**

** Significant at the .01 level of confidence (6.90 required).

* Significant at the .05 level of confidence (3.94 required).

Elementary Majors Vs. Foreign Language
Majors, Female

The analysis for the groups produced only one significant variable on which the two majors could be differentiated, Factor G. The resulting F-values found in Table XI revealed on the literary scale that the foreign language majors mean score was significantly higher than that scored by elementary majors.

TABLE XI
 GROUP MEANS AND F-RATIOS, FEMALE ELEMENTARY
 MAJORS VS. FOREIGN LANGUAGE MAJORS

Factor	Group Means		F
	Elementary (n=83)	Foreign Language (n=22)	
A. Outdoor	32.50	29.81	.63
B. Mechanical	21.93	21.00	.18
C. Computational	24.02	22.18	.83
D. Scientific	30.13	30.27	.00
E. Persuasive	33.12	38.00	3.08
F. Artistic	28.09	29.45	.40
G. Literary	20.27	27.90	15.85**
H. Musical	14.83	15.95	.50
I. Social Service	56.02	57.09	.12
J. Clerical	58.78	52.18	3.74

** Significant at the .01 level of confidence (6.90 required).

* Significant at the .05 level of confidence (3.94 required).

Elementary Majors Vs. Mathematics
Majors, Female

Table XII presents the mean scores and the significant F-values of elementary majors and mathematics majors. Inspection of the data reveals significantly higher scores were made by mathematics majors on Factors C and D. Conversely, elementary majors scored higher on the Musical variable.

TABLE XII
 GROUP MEANS AND F-RATIOS, FEMALE ELEMENTARY
 MAJORS VS. MATHEMATICS MAJORS

Factor	Group Means		F
	Elementary (n=83)	Mathematics (n=26)	
A. Outdoor	32.50	36.61	1.57
B. Mechanical	21.93	19.92	.91
C. Computational	24.02	34.84	32.49**
D. Scientific	30.13	41.00	14.55**
E. Persuasive	33.12	32.38	.06
F. Artistic	28.09	24.53	2.57
G. Literary	20.27	19.53	.17
H. Musical	14.83	11.38	6.06*
I. Social Service	56.02	48.84	5.12
J. Clerical	58.78	62.69	1.61

** Significant at the .01 level of confidence (6.90 required).

* Significant at the .05 level of confidence (3.94 required).

Elementary Majors Vs. Social Studies
Majors, Female

Inspection of Table XIII shows that Factor C, E, and J may be used to differentiate between elementary majors and social studies majors. Elementary students scored higher on the Computational and Clerical variable while a higher score on the Persuasive factor was reserved for the social studies majors.

TABLE XIII
 GROUP MEANS AND F-RATIOS, FEMALE ELEMENTARY
 MAJORS VS. SOCIAL STUDIES MAJORS

Factor	Group Means		F
	Elementary (n=83)	Social Studies (n=27)	
A. Outdoor	32.50	36.88	2.24
B. Mechanical	21.93	19.59	1.47
C. Computational	24.02	19.92	4.89*
D. Scientific	30.13	31.96	.48
E. Persuasive	33.12	38.77	4.60*
F. Artistic	28.09	27.59	.05
G. Literary	20.27	22.59	1.49
H. Musical	14.83	12.33	3.20
I. Social Service	56.02	59.81	1.90
J. Clerical	58.78	50.55	6.98**

** Significant at the .01 level of confidence (6.90 required).

* Significant at the .05 level of confidence (3.94 required).

Elementary Majors Vs. Music Majors, Female

An analysis of variance on each of the interest factors revealed those on which the two groups could be differentiated. The F-values obtained by the analysis of variance of the group means on each factor are shown in Table XIV.

Examination of the data in Table XIV shows that elementary majors scored higher on the Scientific and Social Service variables. The music majors scored significantly higher on the Musical factor as one might expect.

TABLE XIV
 GROUP MEANS AND F-RATIOS, FEMALE ELEMENTARY
 MAJORS VS. MUSIC MAJORS

Factor	Group Means		F
	Elementary (n=83)	Music (n=23)	
A. Outdoor	32.50	27.73	2.19
B. Mechanical	21.93	20.34	.68
C. Computational	24.02	22.13	.93
D. Scientific	30.13	20.73	12.54**
E. Persuasive	33.12	33.17	.00
F. Artistic	28.09	28.26	.00
G. Literary	20.27	22.17	.96
H. Musical	14.83	26.95	73.30**
I. Social Service	56.02	47.39	7.86**
J. Clerical	58.78	57.39	.16

** Significant at the .01 level of confidence (6.90 required).

* Significant at the .05 level of confidence (3.94 required).

Elementary Majors Vs. Home Economics
Majors, Female

The analysis of variance applied to each of the interest factors in the two groups produced the F-values shown in Table XV. Again the group means of each factor are given for comparison purposes.

The most significant difference between the elementary majors and the home economics majors as shown in Table XV is in Factors A and F. The home economics students are more artistic, while the elementary counterpart scored higher on the Outdoor variable.

TABLE XV
 GROUP MEANS AND F-RATIOS, FEMALE ELEMENTARY
 MAJORS VS. HOME ECONOMICS MAJORS

Factor	Group Means		F
	Elementary (n=83)	Home Economics (n=20)	
A. Outdoor	32.50	24.89	5.92*
B. Mechanical	21.93	20.79	.27
C. Computational	24.02	26.50	1.45
D. Scientific	30.13	28.59	.30
E. Persuasive	33.12	38.50	3.29
F. Artistic	28.09	34.29	7.38**
G. Literary	20.27	18.79	.53
H. Musical	14.83	13.00	1.25
I. Social Service	56.02	52.70	1.07
J. Clerical	58.78	63.29	1.84

** Significant at the .01 level of confidence (6.96 required).

* Significant at the .05 level of confidence (3.96 required).

English Majors Vs. Foreign Language
Majors, Female

The F-values obtained by an analysis of variance and the mean scores of the two groups on each of the ten variables are given in Table XVI.

Significant differences appear between the English majors and the foreign language majors on Factors C and G. Inspection of the mean scores on these variables shows the foreign language majors obtained a higher score on the Computational section and that the English majors scored higher on the Literary category.

TABLE XVI
 GROUP MEANS AND F-RATIOS, FEMALE ENGLISH
 MAJORS VS. FOREIGN LANGUAGE MAJORS

Factor	Group Means		F
	English (n=29)	Foreign Language (n=22)	
A. Outdoor	32.06	29.81	.42
B. Mechanical	19.34	21.00	.49
C. Computational	17.37	22.18	6.07*
D. Scientific	26.55	30.27	1.42
E. Persuasive	40.48	38.00	.63
F. Artistic	25.65	29.45	3.60
G. Literary	31.44	27.90	4.27*
H. Musical	15.65	15.95	.02
I. Social Service	53.72	57.09	1.51
J. Clerical	49.31	52.18	.57

** Significant at the .01 level of confidence (7.19 required).

* Significant at the .05 level of confidence (4.04 required).

English Majors Vs. Mathematics Majors, Female

The most significant differences between the English majors and the mathematics majors were found by the analysis of variance to be Factors C, D, E, G, H, and J. Highly significant F-values on these factors, when interpreted in relation to the mean scores, indicated that the English major scored higher on the Persuasive, Literary, and Musical scales. The mathematics majors obtained higher scores on the Computational, Scientific, and the Clerical variables of this test.

TABLE XVII
 GROUP MEANS AND F-RATIOS, FEMALE ENGLISH
 MAJORS VS. MATHEMATICS MAJORS

Factor	Group Means		F
	English (n=29)	Mathematics (n=26)	
A. Outdoor	32.06	36.61	1.52
B. Mechanical	19.34	19.92	.05
C. Computational	17.37	34.84	83.39**
D. Scientific	26.55	41.00	22.56**
E. Persuasive	40.48	32.38	4.60*
F. Artistic	25.65	24.53	.19
G. Literary	31.44	19.53	56.70**
H. Musical	15.65	11.38	6.35*
I. Social Service	53.72	48.84	1.71
J. Clerical	49.31	62.69	16.35**

** Significant at the .01 level of confidence (7.17 required).

* Significant at the .05 level of confidence (4.03 required).

English Majors Vs. Social Studies
Majors, Females

Table XVIII compares the mean scores of the two groups on each of the ten variables. The resulting F-ratios were the product of an analysis of variance which shows that significant differences were found on Factors D, G, and I. The social studies group was more Scientific and scored higher on the Social Service category. The English majors gained a higher total in the Literary column.

TABLE XVIII
 GROUP MEANS AND F-RATIOS, FEMALE ENGLISH
 MAJORS VS. SOCIAL STUDIES MAJORS

Factor	Group Means		F
	English (n=29)	Social Studies (n=27)	
A. Outdoor	32.06	36.88	2.98
B. Mechanical	19.34	19.59	.01
C. Computational	17.37	19.92	1.90
D. Scientific	26.55	31.96	4.69*
E. Persuasive	40.48	38.77	.29
F. Artistic	25.65	27.59	.68
G. Literary	31.44	22.59	18.96**
H. Musical	15.65	12.33	3.74
I. Social Service	53.72	59.81	5.22*
J. Clerical	49.31	50.55	.12

** Significant at the .01 level of confidence (7.17 required).

* Significant at the .05 level of confidence (4.03 required).

English Majors Vs. Music Majors, Female

Inspection of the F-values found in Table XIX shows that these majors may be differentiated by Factors C, D, E, G, and H. Significant differences in the mean scores reveal that the English majors scored higher on Computational and Musical variables. Further inspection shows that on the Scientific, Literary, and Persuasive scales the highest scores were obtained by the English majors.

TABLE XIX
 GROUP MEANS AND F-RATIOS, FEMALE ENGLISH
 MAJORS VS. MUSIC MAJORS

Factor	Group Means		F
	English (n=29)	Music (n=23)	
A. Outdoor	32.06	27.73	1.86
B. Mechanical	19.34	20.34	.40
C. Computational	17.37	22.13	6.54*
D. Scientific	26.55	20.73	8.02**
E. Persuasive	40.48	33.17	4.55*
F. Artistic	25.65	28.26	1.83
G. Literary	31.44	22.17	25.32**
H. Musical	15.65	26.95	48.36**
I. Social Service	53.72	47.39	3.93
J. Clerical	49.31	57.39	4.30

** Significant at the .01 level of confidence (7.19 required).

* Significant at the .05 level of confidence (4.04 required).

English Majors Vs. Home Economics
Majors, Female

Differentiation of English majors and home economics majors can easily be made on the basis of distinguishing interest characteristics. Results of their comparison can be found in Table XX. The F-values showed that there is a highly significant difference in that the English majors scored higher on the Outdoor and Literary sections but much lower on the variables involving Computational, Artistic, and Clerical.

TABLE XX
 GROUP MEANS AND F-RATIOS, FEMALE ENGLISH
 MAJORS VS. HOME ECONOMICS MAJORS

Factor	Group Means		F
	English (n=29)	Home Economics (n=20)	
A. Outdoor	32.06	24.89	9.61**
B. Mechanical	19.34	20.79	.52
C. Computational	17.37	26.50	24.56**
D. Scientific	26.55	28.59	1.07
E. Persuasive	40.48	38.50	.34
F. Artistic	25.65	34.29	14.84**
G. Literary	31.44	18.79	46.98**
H. Musical	15.65	13.00	1.71
I. Social Service	53.72	52.70	.10
J. Clerical	49.31	63.29	18.55**

** Significant at the .01 level of confidence (7.21 required).

* Significant at the .05 level of confidence (4.05 required).

Foreign Language Majors Vs. Mathematics
Majors, Female

Six variables help distinguish between the two majors found in Table XXI. According to the F-values computed by the analysis of variance, the mathematics majors scored higher than the foreign language majors on the Computational, Scientific, and Clerical scales, but scored lower on the Persuasive, Literary, and Musical factors.

TABLE XXI
 GROUP MEANS AND F-RATIOS, FEMALE FOREIGN
 LANGUAGE MAJORS VS. MATHEMATICS MAJORS

Factor	Group Means		F
	Foreign Language (n=22)	Mathematics (n=26)	
A. Outdoor	29.81	36.61	2.08
B. Mechanical	21.00	19.92	.12
C. Computational	22.18	34.84	32.29**
D. Scientific	30.27	41.00	6.24*
E. Persuasive	38.00	32.38	2.08
F. Artistic	29.45	24.53	2.59
G. Literary	27.90	19.53	20.34**
H. Musical	15.95	11.38	7.99**
I. Social Service	57.00	48.84	4.15*
J. Clerical	52.18	62.69	7.61**

** Significant at the .01 level of confidence (7.21 required).

* Significant at the .05 level of confidence (4.05 required).

Foreign Language Majors Vs. Social Studies
Majors, Female

A comparison of group means for foreign language majors and social studies majors is found in Table XXII. The calculated F-values reveal a significant difference in the mean scores on these two scales. The foreign language majors scored significantly higher on the Literary and Musical variables.

TABLE XXII
 GROUP MEANS AND F-RATIOS, FEMALE FOREIGN
 LANGUAGE MAJORS VS. SOCIAL
 STUDIES MAJORS

Factor	Group Means		F
	Foreign Language (n=22)	Social Studies (n=27)	
A. Outdoor	29.81	36.88	3.47
B. Mechanical	21.00	19.59	.28
C. Computational	22.18	19.92	1.10
D. Scientific	30.27	31.96	.20
E. Persuasive	38.00	38.77	.06
F. Artistic	29.45	27.59	.44
G. Literary	27.90	22.59	5.04*
H. Musical	15.95	12.33	4.76*
I. Social Service	57.09	59.81	.99
J. Clerical	52.18	50.55	.16

** Significant at the .01 level of confidence (7.21 required).

* Significant at the .05 level of confidence (4.05 required).

Foreign Language Majors Vs. Music
Majors, Female

The analysis of variance applied to each of the interest factors in the two groups produced the F-values shown in Table XXIII. The music majors scored significantly higher on the Musical variable, but significantly lower on the Scientific, Literary, and Social Service scales.

TABLE XXIII
 GROUP MEANS AND F-RATIOS, FEMALE FOREIGN
 LANGUAGE MAJORS VS. MUSIC MAJORS

Factor	Group Means		F
	Foreign Language (n=22)	Music (n=23)	
A. Outdoor	29.81	27.73	.23
B. Mechanical	21.00	20.34	.07
C. Computational	22.18	22.13	.00
D. Scientific	30.27	20.73	7.23*
E. Persuasive	38.00	33.17	2.06
F. Artistic	29.45	28.26	.25
G. Literary	27.90	22.17	7.07*
H. Musical	15.95	26.95	56.38**
I. Social Service	57.09	47.39	8.37**
J. Clerical	52.18	57.39	1.34

** Significant at the .01 level of confidence (7.31 required).

* Significant at the .05 level of confidence (4.08 required).

Foreign Language Majors Vs. Home Economics
Majors, Female

Two variables highly differentiate between foreign language majors and home economics majors. Table XXIV illustrates that the two categories, Literary and Clerical, received significant F-values. Home economics majors scored higher in Clerical, but lower in Literary when compared to foreign language majors.

TABLE XXIV
 GROUP MEANS AND F-RATIOS, FEMALE FOREIGN
 LANGUAGE MAJORS VS. HOME
 ECONOMICS MAJORS

Factor	Group Means		F
	Foreign Language (n=22)	Home Economics (n=20)	
A. Outdoor	29.81	24.89	1.91
B. Mechanical	21.00	20.79	.00
C. Computational	22.18	26.50	4.01
D. Scientific	30.27	28.59	.21
E. Persuasive	38.00	38.50	.02
F. Artistic	29.45	34.29	3.12
G. Literary	27.90	18.79	17.69**
H. Musical	15.95	13.00	2.24
I. Social Service	57.09	52.70	1.83
J. Clerical	52.18	63.29	8.84**

** Significant at the .01 level of confidence (7.31 required).

* Significant at the .05 level of confidence (4.08 required).

Mathematics Majors Vs. Social Studies
Majors, Female

Shown in Table XXV are the resulting F-values calculated by the analysis of variance from the group means of the two majors. Inspection reveals that the mathematics majors scored much higher on the variables Computational, Scientific, and Clerical, but scored significantly lower on the Social Service scale.

TABLE XXV
 GROUP MEANS AND F-RATIOS, FEMALE MATHEMATICS
 MAJORS VS. SOCIAL STUDIES MAJORS

Factor	Group Means		F
	Mathematics (n=26)	Social Studies (n=27)	
A. Outdoor	36.61	36.88	.00
B. Mechanical	19.92	19.59	.01
C. Computational	34.84	19.92	50.67**
D. Scientific	41.00	31.96	6.24*
E. Persuasive	32.38	38.77	2.83
F. Artistic	24.53	27.59	.93
G. Literary	19.53	22.59	1.96
H. Musical	11.38	12.33	.50
I. Social Service	48.84	59.81	8.33**
J. Clerical	62.69	50.55	11.83**

** Significant at the .01 level of confidence (7.17 required).

* Significant at the .05 level of confidence (4.03 required).

Mathematics Majors Vs. Music Majors, Female

The F-values obtained by an analysis of variance of the mean scores for the two groups on each of the ten variables are given in Table XXVI.

Very significant differences exist between the two academic majors on Factors C, D, and H. The mathematics majors scored significantly higher on the Computational and Scientific scales. Conversely, as expected, the music majors obtained much greater scores on the Musical variable.

TABLE XXVI
 GROUP MEANS AND F-RATIOS, FEMALE MATHEMATICS
 MAJORS VS. MUSIC MAJORS

Factor	Group Means		F
	Mathematics (n=26)	Music (n=23)	
A. Outdoor	36.61	27.73	4.00
B. Mechanical	19.92	20.34	.03
C. Computational	34.84	22.13	35.56*
D. Scientific	41.00	20.73	34.48**
E. Persuasive	32.38	33.17	.03
F. Artistic	24.53	28.26	1.58
G. Literary	19.53	22.17	1.75
H. Musical	11.38	26.95	206.02**
I. Social Service	48.84	47.39	.11
J. Clerical	62.69	57.39	1.31

** Significant at the .01 level of confidence (7.24 required).

* Significant at the .05 level of confidence (4.06 required).

Mathematics Majors Vs. Home Economics
Majors, Female

Group differences between mathematics majors and home economics majors are shown by significant F-values on Factors A, C, D, and F. Comparison of the mean scores of the two groups on these factors, as shown in Table XXVII, reveals the magnitude of the differences.

The mathematics majors scored higher on Outdoor, Computational, and Scientific. Compared with the mathematics majors, the home economics majors are much more Artistic.

TABLE XXVII
 GROUP MEANS AND F-RATIOS, FEMALE MATHEMATICS
 MAJORS VS. HOME ECONOMICS MAJORS

Factor	Group Means		F
	Mathematics (n=26)	Home Economics (n=20)	
A. Outdoor	36.61	24.89	8.75**
B. Mechanical	19.92	20.79	.09
C. Computational	34.84	26.50	15.19**
D. Scientific	41.00	28.59	12.16**
E. Persuasive	32.38	38.50	2.12
F. Artistic	24.53	34.29	8.70**
G. Literary	19.53	18.79	.13
H. Musical	11.38	13.00	1.02
I. Social Service	48.84	52.70	.74
J. Clerical	62.69	63.29	.03

** Significant at the .01 level of confidence (7.24 required).

* Significant at the .05 level of confidence (4.06 required).

Social Studies Majors Vs. Music Majors, Female

In Table XXVIII, a summary of the group means on each of the ten variables is presented, along with the F-values resulting from the two-group analysis of variance.

The most outstanding differences when both groups are compared are found in Factors A, D, H, and I. The social studies majors scored significantly higher on the Outdoor, Scientific, and Social Service scales. The music majors scored significantly higher on Factor H, which is the Musical variable.

TABLE XXVIII

GROUP MEANS AND F-RATIOS, FEMALE SOCIAL
STUDIES MAJORS VS. MUSIC MAJORS

Factor	Group Means		F
	Social Studies (n=27)	Music (n=23)	
A. Outdoor	36.88	27.73	6.84*
B. Mechanical	19.59	20.34	.16
C. Computational	19.92	22.13	1.14
D. Scientific	31.96	20.73	15.60**
E. Persuasive	38.77	33.17	2.71
F. Artistic	27.59	28.26	.06
G. Literary	22.59	22.17	.02
H. Musical	12.33	26.95	157.19**
I. Social Service	59.81	47.39	14.81**
J. Clerical	50.55	57.39	2.73

** Significant at the .01 level of confidence (7.21 required).

* Significant at the .05 level of confidence (4.05 required).

Social Studies Majors Vs. Home Economics
Majors, Female

The F-value obtained by an analysis of variance and the mean scores of the two groups on each of the ten variables are given in Table XXIX.

Significant differences exist between the social studies majors and the home economics majors on Factors A, C, F, I, and J. Examination of the mean scores on these factors shows the social studies majors obtained higher scores on the Outdoor and Social Service scales. The home economics majors scored higher on the Computational, Artistic, and Clerical factors.

TABLE XXIX
 GROUP MEANS AND F-RATIOS, FEMALE SOCIAL STUDIES
 MAJORS VS. HOME ECONOMICS MAJORS

Factor	Group Means		F
	Social Studies (n=27)	Home Economics (n=20)	
A. Outdoor	36.88	24.89	19.46**
B. Mechanical	19.59	20.79	.26
C. Computational	19.92	26.50	10.18**
D. Scientific	31.96	28.59	1.36
E. Persuasive	38.77	38.50	.00
F. Artistic	27.59	34.29	4.82*
G. Literary	22.59	18.79	2.26
H. Musical	12.33	13.00	.16
I. Social Service	59.81	52.70	5.06*
J. Clerical	50.55	63.29	13.28**

** Significant at the .01 level of confidence (7.24 required).

* Significant at the .05 level of confidence (4.06 required).

Music Majors Vs. Home Economics Majors, Female

The analysis of variance applied to each of the interest variables in the two groups produced the F-values shown in Table XXX. The music majors scored higher on the Musical scales but scored lower on the Computational, Scientific, and Artistic scales when compared to home economics majors.

TABLE XXX
 GROUP MEANS AND F-RATIOS, FEMALE MUSIC
 MAJORS VS. HOME ECONOMICS MAJORS

Factor	Group Means		F
	Music (n=23)	Home Economics (n=20)	
A. Outdoor	27.73	24.89	.80
B. Mechanical	20.34	20.79	.06
C. Computational	22.13	26.50	4.56*
D. Scientific	20.73	28.59	11.94**
E. Persuasive	33.17	38.50	2.11
F. Artistic	28.26	34.29	5.21*
G. Literary	22.17	18.79	2.12
H. Musical	26.95	13.00	97.86**
I. Social Service	47.39	52.70	1.94
J. Clerical	57.39	63.29	2.24

** Significant at the .01 level of confidence (7.35 required).

* Significant at the .05 level of confidence (4.10 required).

Comparison of Male Analyses
By Majors

Each male student's raw score from the ten variables of the Kuder was combined with the score of others who had graduated with the same major. The scores were then used to compute a discriminate function for each variable within each group and each group was compared with the other seven groups. In this manner, a composite interest profile was established and used as a basis for individual classification of subjects. On the basis of scores on the ten interest factors, each individual was classified as belonging to one of the eight groups according to how closely his interests resembles the composite profile that had been established for that group.

The discriminate analysis yielded a Generalized Mahalanobis D^2 statistic of 342.75 which, when interpreted as chi-square with 70 degrees of freedom, indicated a highly significant difference among the eight groups.

As may be seen in Table XXXI, the application of the discriminate function revealed distinct differences in the total interest of the eight groups but gave no indication of which factors were contributing to the discrimination. In order to identify specific factors on which the discrimination was based, an analysis of variance was used to test significant group mean differences on each of the ten variables involved.

Table XXXII reveals the results of the analysis for each major area when it is compared to the other seven majors. The cells of the matrix contain the specific factors of the Kuder that significantly differentiate one academic major from another. The reader may turn to

TABLE XXXI

DISCRIMINATE FUNCTION CLASSIFICATION OF
MALE STUDENTS BY ACADEMIC MAJOR

Academic Major	Discriminate Function Classification								n	%
	Bus.	Elem.	Math.	Phys. Educ.	Soc. Stu.	Sci.	Ind. Arts	Eng.		
1. Business	24*	2	11	6	5	5	5	4	62	39
2. Elementary	3	4*	2	5	4	1	1	5	25	16
3. Mathematics	4	3	18*	1	1	8	6	3	44	41
4. Physical Education	3	4	4	18*	6	1	7	2	45	40
5. Social Studies	3	2	1	7	18*	7	2	8	48	38
6. Science	2	2	3	0	3	14*	6	2	32	44
7. Industrial Arts	1	4	2	3	0	8	19*	0	37	51
8. English	0	2	2	0	1	1	1	9*	16	56

* Denotes the cells containing the number of similar profiles distinctive to the corresponding academic major.

n= The number of male subjects sampled in each of the academic areas.

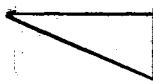
%= The percent of subjects that had similar profiles in relation to the total number sampled for that group.

The remaining cells represent the total number of subjects that had profiles more similar to the academic majors listed in the columns.

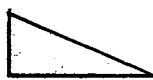
TABLE XXXII

SIGNIFICANT FACTORS THAT DIFFERENTIATE
BETWEEN MALE ACADEMIC MAJORS

	Bus.	Elem.	Math	Physical Educ.	Social Studies	Science	Industr. Arts	Eng.
Business		I C,J	A,B,D E,J	A,I C,J	A,D,I C,J	A,B,D C,E,J	A,B,E C,E,J	G,H C,E,J
Elementary			C,D I	C	G C	A,D J	A,B,F I	G
Mathematics				E,F,I C,D	E,G,I B,C,D	C,J	B,F C,D	G,H B,C,D
Physical Education					D,G B	A,C,D E,J	B,C,D E	G,H E
Social Studies						A,B,C,D E,G	B,C,F E,G,I	H D
Science							B,F D	G,H A,B,D
Industrial Arts								G,H A,B,C
English								



Represents that part of the cell that contains the significant factors for the majors listed in the columns (vertically).



Represents that part of the cell that contains the significant factors for the majors listed in the rows (horizontally).

Table XXXII and observe that when male business students were compared to male elementary students, factors C, I, and J are in the cell constructed at the intersection of the row (business) and the column (elementary). These were the significant factors of the Kuder that differentiated between those specific majors when the analysis of variance technique was applied.

Results of the analysis of variance are reported according to the following group comparisons:

Male Students

1. Business majors vs. Elementary majors
2. Business majors vs. Mathematics majors
3. Business majors vs. Physical Education majors
4. Business majors vs. Social Studies majors
5. Business majors vs. Science majors
6. Business majors vs. Industrial Arts majors
7. Business majors vs. English majors
8. Elementary majors vs. Mathematics majors
9. Elementary majors vs. Physical Education majors
10. Elementary majors vs. Social Studies majors
11. Elementary majors vs. Science majors
12. Elementary majors vs. Industrial Arts majors
13. Elementary majors vs. English majors
14. Mathematics majors vs. Physical Education majors
15. Mathematics majors vs. Social Studies majors
16. Mathematics majors vs. Science majors
17. Mathematics majors vs. Industrial Arts majors

18. Mathematics majors vs. English majors
19. Physical Education majors vs. Social Studies majors
20. Physical Education majors vs. Science majors
21. Physical Education majors vs. Industrial Arts majors
22. Physical Education majors vs. English majors
23. Social Studies majors vs. Science majors
24. Social Studies majors vs. Industrial Arts majors
25. Social Studies majors vs. English majors
26. Science majors vs. Industrial Arts majors
27. Science majors vs. English majors
28. Industrial Arts majors vs. English majors

Business Majors Vs. Elementary Majors, Male

The fact that there were distinct differences in the interest traits of business majors and elementary majors was established by the discriminate function, but that analysis did not indicate which interest factors were contributing to the difference. An analysis of variance was used to determine the specific variables which were significantly different between the two groups. The resulting F-ratios obtained on each variable are given in Table XXXVIII. Group means on each variable are also reported in the same table.

The interest differences between the business majors and the elementary majors were found to be Factors C, I, and J. Closer inspection shows that business majors scored higher on the Computational and Clerical scales, and that the elementary majors scored higher on the Social Service variable.

TABLE XXXIII
 GROUP MEANS AND F-RATIOS, MALE BUSINESS
 MAJORS VS. ELEMENTARY MAJORS

Factor	Group Means		F
	Business (n=62)	Elementary (n=25)	
A. Outdoor	35.77	39.75	1.40
B. Mechanical	37.30	39.23	.43
C. Computational	36.09	30.39	7.69**
D. Scientific	40.32	41.75	.24
E. Persuasive	44.32	40.12	1.97
F. Artistic	21.41	20.67	.16
G. Literary	17.46	18.48	.25
H. Musical	10.33	10.84	.09
I. Social Service	39.22	46.56	6.35*
J. Clerical	59.69	51.67	6.49*

** Significant at the .01 level of confidence (6.96 required).

* Significant at the .05 level of confidence (3.96 required).

Business Majors Vs. Mathematics Majors, Male

The group means and F-values reported in Table XXXIV reveal highly significant differences between the two groups. An analysis of the table shows that mathematics majors scored higher on the Outdoor, Mechanical, and Scientific scales, while business majors displayed higher scores on the Persuasive and Clerical variables.

TABLE XXXIV
 GROUP MEANS AND F-RATIOS, MALE BUSINESS
 MAJORS VS. MATHEMATICS MAJORS

Factor	Group Means		F
	Business (n=62)	Mathematics (n=44)	
A. Outdoor	35.77	44.97	9.91**
B. Mechanical	37.30	42.13	4.16*
C. Computational	36.09	37.79	1.10
D. Scientific	40.32	50.36	16.87**
E. Persuasive	44.32	35.11	13.51**
F. Artistic	21.41	20.11	.58
G. Literary	17.46	17.84	.04
H. Musical	10.33	8.97	1.16
I. Social Service	39.22	37.93	.28
J. Clerical	59.69	51.20	11.64**

** Significant at the .01 level of confidence (6.90 required).

* Significant at the .05 level of confidence (3.94 required).

Business Majors Vs. Physical Education
Majors, Male

Table XXXV presents mean scores obtained by the two groups. The resulting F-values indicate that business majors scored higher on the Factors Computational and Clerical. The physical education group scored significantly higher on the Outdoor and Social Service scales.

TABLE XXXV
 GROUP MEANS AND F-RATIOS, MALE BUSINESS
 MAJORS VS. PHYSICAL EDUCATION MAJORS

Factor	Group Means		F
	Business (n=62)	Physical Education (n=45)	
A. Outdoor	35.77	45.24	14.32 ^{**}
B. Mechanical	37.30	41.62	3.31
C. Computational	36.09	26.04	35.36 ^{**}
D. Scientific	40.32	39.79	.04
E. Persuasive	44.32	42.11	.79
F. Artistic	21.41	23.93	2.31
G. Literary	17.46	15.64	1.39
H. Musical	10.33	9.82	.10
I. Social Service	39.22	45.42	6.01 [*]
J. Clerical	59.69	50.35	14.99 ^{**}

^{**}Significant at the .01 level of confidence (6.90 required).

^{*}Significant at the .05 level of confidence (3.94 required).

Business Majors Vs. Social Studies
Majors, Male

The most significant differences between the business majors and the social studies group were found by the analysis of variance to be Factors A, C, D, G, I, and J. Highly significant F-values on these factors, when interpreted in relation to the mean scores, indicated that the business majors scored higher on the Computational and Clerical variables. Conversely social studies majors obtained higher scores on the Outdoor, Scientific, Literary, and Social Service factors as may be seen in Table XXXVI.

TABLE XXXVI
 GROUP MEANS AND F-RATIOS, MALE BUSINESS
 MAJORS VS. SOCIAL STUDIES MAJORS

Factor	Group Means		F
	Business (n=62)	Social Studies (n=48)	
A. Outdoor	35.77	43.81	8.15**
B. Mechanical	37.30	35.18	.78
C. Computational	36.09	25.66	43.35**
D. Scientific	40.32	45.10	4.17*
E. Persuasive	44.32	40.72	1.98
F. Artistic	21.41	22.06	.13
G. Literary	17.46	23.25	12.41**
H. Musical	10.33	9.77	.23
I. Social Service	39.22	45.35	6.68*
J. Clerical	59.69	47.52	23.09**

** Significant at the .01 level of confidence (6.90 required).

* Significant at the .05 level of confidence (3.94 required).

Business Majors Vs. Science Majors, Male

An analysis of variance and the resulting F-values differentiated highly between the two groups. Table XXXVII shows that on the comparison business majors scored higher on the Factors Persuasive, Computational, and Clerical. Science majors scored higher on the Outdoor, Mechanical, and Scientific scales.

TABLE XXXVII
 GROUP MEANS AND F-RATIOS, MALE BUSINESS
 MAJORS VS. SCIENCE MAJORS

Factor	Group Means		F
	Business (n=62)	Science (n=32)	
A. Outdoor	35.77	51.43	26.88**
B. Mechanical	37.30	43.84	5.68*
C. Computational	36.09	30.15	11.33**
D. Scientific	40.32	54.81	29.88**
E. Persuasive	44.32	34.15	13.48**
F. Artistic	21.41	21.53	.00
G. Literary	17.46	17.00	.06
H. Musical	10.33	9.50	.37
I. Social Service	39.22	40.81	.36
J. Clerical	59.69	44.87	26.86**

** Significant at the .01 level of confidence (6.96 required).

* Significant at the .05 level of confidence (3.96 required).

Business Majors Vs. Industrial Arts Majors, Male

Table XXXVIII compares the mean scores of the two groups on each of the ten variables. The resulting F-values were the product of an analysis of variance which shows that highly significant differences were found on Factors A, B, C, E, F, and J. The business majors scored higher on the Computational, Persuasive, and Clerical scales, but significantly lower on the Outdoor, Mechanical, and Artistic variables.

TABLE XXXVIII
 GROUP MEANS AND F-RATIOS, MALE BUSINESS
 MAJORS VS. INDUSTRIAL ARTS MAJORS

Factor	Group Means		F
	Business (n=62)	Industrial Arts (n=37)	
A. Outdoor	35.77	48.16	19.33*
B. Mechanical	37.30	52.70	44.05**
C. Computational	36.09	29.72	14.65**
D. Scientific	40.32	44.86	2.90
E. Persuasive	44.32	35.05	12.41**
F. Artistic	21.41	27.89	11.80**
G. Literary	17.46	16.27	.54
H. Musical	10.33	9.32	.53
I. Social Service	39.22	40.35	.22
J. Clerical	59.69	48.00	19.50**

** Significant at the .01 level of confidence (6.96 required).

* Significant at the .05 level of confidence (3.96 required).

Business Majors Vs. English Majors, Male

Inspection of the F-values found in Table XXXIX shows that these majors may be differentiated by Factors C, E, G, H, and J. Significant differences in the mean scores reveal that the business majors scored higher on the Computational, Persuasive, and Clerical scales, while scoring significantly lower on the Literary and Musical factors.

TABLE XXXIX
 GROUP MEANS AND F-RATIOS, MALE BUSINESS
 MAJORS VS. ENGLISH MAJORS

Factor	Group Means		F
	Business (n=62)	English (n=16)	
A. Outdoor	35.77	38.87	.62
B. Mechanical	37.30	34.93	.43
C. Computational	36.09	27.68	12.88**
D. Scientific	40.32	36.12	1.25
E. Persuasive	44.32	34.31	7.37**
F. Artistic	21.41	21.93	.04
G. Literary	17.46	27.37	18.03**
H. Musical	10.33	15.43	8.93**
I. Social Service	39.22	44.31	2.01
J. Clerical	59.69	47.25	11.36**

** Significant at the .01 level of confidence (7.01 required).

* Significant at the .05 level of confidence (3.98 required).

Elementary Majors Vs. Mathematics Majors, Male

Elementary majors and mathematics majors may be differentiated on the basis of interest traits as is illustrated in Table XL. The resulting F-ratios from the analysis of variance demonstrates the facts mathematics majors scored higher on the Computational and Scientific scales, while the elementary majors scored higher on the Social Service scale.

TABLE XL
 GROUP MEANS AND F-RATIOS, MALE ELEMENTARY
 MAJORS VS. MATHEMATICS MAJORS

Factor	Group Means		F
	Elementary (n=25)	Mathematics (n=44)	
A. Outdoor	39.75	44.97	1.58
B. Mechanical	39.23	42.13	1.07
C. Computational	30.39	37.79	13.38**
D. Scientific	41.75	50.36	11.60**
E. Persuasive	40.12	35.11	2.93
F. Artistic	20.67	20.11	.07
G. Literary	18.48	17.84	.08
H. Musical	10.84	8.97	1.05
I. Social Service	46.56	37.39	8.63**
J. Clerical	51.67	51.20	.02

** Significant at the .01 level of confidence (7.04 required).

* Significant at the .05 level of confidence (3.99 required).

Elementary Majors Vs. Physical Education
Majors, Male

It is interesting to note that male elementary majors and physical education majors are quite difficult to identify on the basis of interests alone when compared to one another. For significance at the .05 level of confidence, an F-value of 3.99 was needed and that was the F-value calculated between the means on the Factor Computational. Elementary majors scored higher on that scale as may be seen in Table XLI.

TABLE XLI
 GROUP MEANS AND F-RATIOS, MALE ELEMENTARY
 MAJORS VS. PHYSICAL EDUCATION MAJORS

Factor	Group Means		F
	Elementary (n=25)	Physical Education (n=45)	
A. Outdoor	39.75	45.24	2.60
B. Mechanical	39.23	41.62	.71
C. Computational	30.39	26.04	3.99*
D. Scientific	41.75	39.79	.69
E. Persuasive	40.12	42.11	.47
F. Artistic	20.67	23.93	2.72
G. Literary	18.48	15.64	2.12
H. Musical	10.84	9.82	.18
I. Social Service	46.56	45.42	.12
J. Clerical	51.67	50.35	.24

** Significant at the .01 level of confidence (7.04 required).

* Significant at the .05 level of confidence (3.99 required).

Elementary Majors Vs. Social Studies Majors, Male

An analysis of variance on each of the interest scales revealed those on which the two groups could be differentiated. The F-values obtained by the analysis of variance of the group means on each factor is reported in Table XLII.

Inspection of the data shows that when compared to one another, the elementary majors scored higher on the Computational scale. The social studies majors scored higher on the Literary variable.

TABLE XLII
 GROUP MEANS AND F-RATIOS, MALE ELEMENTARY
 MAJORS VS. SOCIAL STUDIES MAJORS

Factor	Group Means		F
	Elementary (n=25)	Social Studies (n=48)	
A. Outdoor	39.75	43.81	1.02
B. Mechanical	39.23	35.18	1.89
C. Computational	30.39	25.66	5.57*
D. Scientific	41.75	45.10	1.91
E. Persuasive	40.12	40.72	.03
F. Artistic	20.67	22.06	.37
G. Literary	18.48	23.25	4.84*
H. Musical	10.84	9.77	.41
I. Social Service	46.56	45.35	.16
J. Clerical	51.67	47.52	1.91

** Significant at the .01 level of confidence (7.01 required).

* Significant at the .05 level of confidence (3.98 required).

Elementary Majors Vs. Science Majors, Male

The interest differences between the elementary majors and the science majors were found to be Factors A, D, and J. Inspection of the mean scores for the groups on these traits as shown in Table XLIII reveals that science majors scored significantly higher on the Outdoor and Scientific scales but lower than the elementary majors on the Clerical scale.

TABLE XLIII
 GROUP MEANS AND F-RATIOS, MALE ELEMENTARY
 MAJORS VS. SCIENCE MAJORS

Factor	Group Means		F
	Elementary (n=25)	Science (n=32)	
A. Outdoor	39.75	51.43	7.98**
B. Mechanical	39.23	43.84	2.06
C. Computational	30.39	30.15	.01
D. Scientific	41.75	54.81	29.50**
E. Persuasive	40.12	34.15	3.80
F. Artistic	20.67	21.53	.16
G. Literary	18.48	17.00	.44
H. Musical	10.84	9.50	.47
I. Social Service	46.56	40.81	3.54
J. Clerical	51.67	44.87	4.65**

**Significant at the .01 level of confidence (7.12 required).

*Significant at the .05 level of confidence (4.02 required).

Elementary Majors Vs. Industrial Arts
Majors, Male

Group means, as reported in Table XLIV, were derived from the data concerning elementary majors and industrial arts majors. An analysis of this table reveals a significant F-value on Factors A, B, F, and I. The industrial arts majors scored higher on the Outdoor, Mechanical, and Artistic scales, but lower than the elementary majors in the area of Social Service.

TABLE XLIV
 GROUP MEANS AND F-RATIOS, MALE ELEMENTARY
 MAJORS VS. INDUSTRIAL ARTS MAJORS

Factor	Group Means		F
	Elementary (n=25)	Industrial Arts (n=37)	
A. Outdoor	39.75	48.16	4.74*
B. Mechanical	39.23	52.70	29.85**
C. Computational	30.39	29.72	.11
D. Scientific	41.75	44.86	1.27
E. Persuasive	40.12	35.05	2.91
F. Artistic	20.67	27.89	9.81**
G. Literary	18.48	16.27	1.22
H. Musical	10.84	9.32	.57
I. Social Service	46.56	40.35	5.44*
J. Clerical	51.67	48.00	1.60

** Significant at the .01 level of confidence (7.08 required).

* Significant at the .05 level of confidence (4.00 required).

Elementary Majors Vs. English Majors, Male

Table XLV shows that elementary majors and English majors may be differentiated on one interest variable, Factor G. The English majors scored significantly higher on the Literary scale.

TABLE XLV
 GROUP MEANS AND F-RATIOS, MALE ELEMENTARY
 MAJORS VS. ENGLISH MAJORS

Factor	Group Means		F
	Elementary (n=25)	English (n=16)	
A. Outdoor	39.75	38.87	.02
B. Mechanical	39.23	34.93	1.19
C. Computational	30.39	27.68	1.05
D. Scientific	41.75	36.12	2.75
E. Persuasive	40.12	34.31	2.34
F. Artistic	20.67	21.93	.24
G. Literary	18.48	27.37	10.48**
H. Musical	10.84	15.43	3.90
I. Social Service	46.56	44.31	.31
J. Clerical	51.67	47.25	1.50

**Significant at the .01 level of confidence (7.35 required).

*Significant at the .05 level of confidence (4.10 required).

Mathematics Majors Vs. Physical Education
Majors, Male

Group differences between the mean scores of mathematics majors and physical education majors are shown by significant F-values on Factors C, D, E, F, and I. Comparison of the group means on these factors, as shown in Table XLVI, reveals the direction and magnitude of the differences.

The physical education majors scored significantly higher on the Persuasive, Artistic, and Social Service scales, but significantly lower on the Computational and Scientific variables when compared to mathematics majors.

TABLE XLVI

GROUP MEANS AND F-RATIOS, MALE MATHEMATICS
MAJORS VS. PHYSICAL EDUCATION MAJORS

Factor	Group Means		F
	Mathematics (n=44)	Physical Education (n=45)	
A. Outdoor	44.97	45.24	.00
B. Mechanical	42.13	41.62	.04
C. Computational	37.79	26.04	46.04**
D. Scientific	50.36	39.79	23.83**
E. Persuasive	35.11	42.11	7.63**
F. Artistic	20.11	23.93	4.02*
G. Literary	17.84	15.64	1.65
H. Musical	8.97	9.82	.21
I. Social Service	37.93	45.42	7.82**
J. Clerical	51.20	50.35	.14

** Significant at the .01 level of confidence (6.96 required).

* Significant at the .05 level of confidence (3.96 required).

Mathematics Majors Vs. Social Studies
Majors, Male

An examination of Table XLVII reveals significant F-values on Factors B, C, D, E, G, and I. Closer inspection shows that mathematics majors scored significantly higher on the Mechanical, Computational, and Scientific variables, but significantly lower on the Persuasive, Literary, and Social Service variables when compared to the social studies majors.

TABLE XLVII

GROUP MEANS AND F-RATIOS, MALE MATHEMATICS
MAJORS VS. SOCIAL STUDIES MAJORS

Factor	Group Means		F
	Mathematics (n=44)	Social Studies (n=48)	
A. Outdoor	44.97	43.81	.11
B. Mechanical	42.13	35.18	8.30**
C. Computational	37.78	25.66	57.19**
D. Scientific	50.36	45.10	5.78*
E. Persuasive	35.11	40.72	4.46*
F. Artistic	20.11	22.06	.90
G. Literary	17.84	23.25	8.64**
H. Musical	8.97	9.77	.36
I. Social Service	37.93	45.35	8.89**
J. Clerical	51.20	47.52	2.31

** Significant at the .01 level of confidence (6.96 required).

* Significant at the .05 level of confidence (3.96 required).

Mathematics Majors Vs. Science Majors, Male

The analysis of variance for the two groups produced significant F-values on two variables from which they could be differentiated.

The mathematics majors attained higher mean scores on the Computational and Clerical scales when they were compared with science majors.

TABLE XLVIII
 GROUP MEANS AND F-RATIOS, MALE MATHEMATICS
 MAJORS VS. SCIENCE MAJORS

Factor	Group Means		F
	Mathematics (n=44)	Science (n=32)	
A. Outdoor	44.97	51.43	3.03
B. Mechanical	42.13	43.84	.40
C. Computational	37.79	30.15	19.87**
D. Scientific	50.36	54.81	3.61
E. Persuasive	35.11	34.15	.12
F. Artistic	20.11	21.53	.44
G. Literary	17.84	17.00	.18
H. Musical	8.97	9.50	.11
I. Social Service	37.93	40.81	1.14
J. Clerical	51.20	44.87	5.93*

** Significant at the .01 level of confidence (7.01 required).

* Significant at the .05 level of confidence (3.98 required).

Mathematics Majors Vs. Industrial Arts
Majors, Male

Table XLIX presents the mean scores and significant F-values of mathematics majors and industrial arts majors. Examination of the data reveals significantly higher scores were made by industrial arts majors in the areas of Mechanical and Artistic. As one might expect, mathematics majors scored higher on the Computational and Scientific scales.

TABLE XLIX

GROUP MEANS AND F-RATIOS, MALE MATHEMATICS
MAJORS VS. INDUSTRIAL ARTS MAJORS

Factor	Group Means		F
	Mathematics (n=44)	Industrial Arts (n=37)	
A. Outdoor	44.97	48.16	.84
B. Mechanical	42.13	52.70	24.14**
C. Computational	37.79	29.72	24.60**
D. Scientific	50.36	44.86	4.87*
E. Persuasive	35.11	35.05	.00
F. Artistic	20.11	27.89	12.77**
G. Literary	17.84	16.27	.77
H. Musical	8.97	9.32	.04
I. Social Service	37.93	40.35	1.02
J. Clerical	51.20	48.00	1.78

** Significant at the .01 level of confidence (7.01 required).

* Significant at the .05 level of confidence (3.98 required).

Mathematics Majors Vs. English Majors, Male

An analysis of variance on each of the interest factors revealed those on which the two groups could be differentiated. The F-values obtained by the analysis of variance of the group means on each factor are shown in Table L.

Examination of the data shows that mathematics majors scored significantly higher on the Factors Mechanical, Computational, and Scientific. The English majors scored significantly higher on the Literary and Musical scales.

TABLE L
 GROUP MEANS AND F-RATIOS, MALE MATHEMATICS
 MAJORS VS. ENGLISH MAJORS

Factor	Group Means		F
	Mathematics (n=44)	English (n=16)	
A. Outdoor	44.97	38.87	1.58
B. Mechanical	42.13	34.93	4.51*
C. Computational	37.79	27.68	21.15***
D. Scientific	50.36	36.12	18.53***
E. Persuasive	35.11	34.31	.05
F. Artistic	20.11	21.93	.43
G. Literary	17.84	27.37	14.12**
H. Musical	8.97	15.43	11.60**
I. Social Service	37.93	44.31	3.15
J. Clerical	51.20	47.25	1.62

** Significant at the .01 level of confidence (7.12 required).

* Significant at the .05 level of confidence (4.02 required).

Physical Education Majors Vs. Social Studies
Majors, Male

The F-values obtained by an analysis of variance and the mean scores of the two groups on each of the ten variables are given in Table LI.

Significant differences appear between the physical education majors and the social studies majors on Factors B, D, and G. Examination of the mean scores on these variables shows the physical education majors obtained a higher score on the Mechanical scale, but lower scores than the social studies majors on the Scientific and Literary factors.

TABLE LI
 GROUP MEANS AND F-RATIOS, MALE PHYSICAL EDUCATION
 MAJORS VS. SOCIAL STUDIES MAJORS

Factor	Group Means		F
	Physical Education (n=45)	Social Studies (n=48)	
A. Outdoor	45.24	43.81	.23
B. Mechanical	41.62	35.18	7.06 ^{**}
C. Computational	26.04	25.66	.04
D. Scientific	39.79	45.10	6.54 [*]
E. Persuasive	42.11	40.72	.27
F. Artistic	23.93	22.06	.89
G. Literary	15.64	23.25	20.41 ^{**}
H. Musical	9.82	9.77	.00
I. Social Service	45.42	45.35	.00
J. Clerical	50.35	47.52	1.47

^{**} Significant at the .01 level of confidence (6.96 required).

^{*} Significant at the .05 level of confidence (3.96 required).

Physical Education Majors Vs. Science
Majors, Male

The most significant differences between the physical education majors and the science majors found by the analysis of variance were Factors A, C, D, E, and J. Significant F-values on these factors, when interpreted in relation to the mean scores, indicated that the science majors scored higher on the Outdoor, Computational, and Scientific scales. The physical education majors obtained higher scores on the Persuasive and Clerical variables of this test.

TABLE LII
 GROUP MEANS AND F-RATIOS, MALE PHYSICAL
 EDUCATION MAJORS VS. SCIENCE MAJORS

Factor	Group Means		F
	Physical Education (n=45)	Science (n=32)	
A. Outdoor	45.24	51.43	4.08*
B. Mechanical	41.62	43.84	.67
C. Computational	26.04	30.15	4.89*
D. Scientific	39.79	54.81	47.12**
E. Persuasive	42.11	34.15	8.44**
F. Artistic	23.93	21.53	1.39
G. Literary	15.64	17.00	.60
H. Musical	9.82	9.50	.02
I. Social Service	45.42	40.81	2.51
J. Clerical	50.35	44.87	4.88*

** Significant at the .01 level of confidence (7.01 required).

* Significant at the .05 level of confidence (3.98 required).

Physical Education Majors Vs. Industrial
Arts Majors, Male

Table LIII compares the mean scores of the two groups on each of the ten variables. The resulting F-ratios were the product of an analysis of variance which shows that significant differences were found on Factors B, C, D, and E. The industrial arts majors scored higher on the Mechanical, Computational, and Scientific scales, but lower than the physical education majors on the Persuasive scale.

TABLE LIII
 GROUP MEANS AND F-RATIOS, MALE PHYSICAL EDUCATION
 MAJORS VS. INDUSTRIAL ARTS MAJORS

Factor	Group Means		F
	Physical Education (n=45)	Industrial Arts (n=37)	
A. Outdoor	45.24	48.16	1.04
B. Mechanical	41.62	52.70	25.80**
C. Computational	26.04	29.72	4.39*
D. Scientific	39.79	44.86	4.61*
E. Persuasive	42.11	35.05	7.24**
F. Artistic	23.93	27.89	3.54
G. Literary	15.64	16.27	.15
H. Musical	9.82	9.32	.06
I. Social Service	45.42	40.35	3.79
J. Clerical	50.35	48.00	1.05

** Significant at the .01 level of confidence (6.96 required).

* Significant at the .05 level of confidence (3.96 required).

Physical Education Majors Vs. English
Majors, Male

The interest differences between the physical education majors and the English majors were found to be Factors E, G, and H. Examination of the mean scores for the two groups on these traits shows that the English majors scored significantly higher on the Literary and Musical variables. Conversely the physical education majors made a higher score on the Persuasive scale as may be witnessed in Table LIV.

TABLE LIV
 GROUP MEANS AND F-RATIOS, MALE PHYSICAL
 EDUCATION MAJORS VS. ENGLISH MAJORS

Factor	Group Means		F
	Physical Education (n=45)	English (n=16)	
A. Outdoor	45.24	38.87	2.76
B. Mechanical	41.62	34.93	3.79
C. Computational	26.04	27.68	.45
D. Scientific	39.79	36.12	1.41
E. Persuasive	42.11	34.31	4.83*
F. Artistic	23.93	21.93	.56
G. Literary	15.64	27.37	28.35**
H. Musical	9.82	15.43	4.28*
I. Social Service	45.42	44.31	.07
J. Clerical	50.35	47.25	1.13

** Significant at the .01 level of confidence (7.12 required).

* Significant at the .05 level of confidence (4.02 required).

Social Studies Majors Vs. Science Majors, Male

Inspection of the F-values found in Table LV shows that these majors may be differentiated by Factors A, B, C, D, E, and G. Significant differences in the means scores reveal that the science majors scored higher on the Outdoor, Mechanical, Computational, and Scientific variables. Further inspection reveals that on the Persuasive and Literary scales, the highest scores were obtained by the social studies majors.

TABLE LV
 GROUP MEANS AND F-RATIOS, MALE SOCIAL
 STUDIES MAJORS VS. SCIENCE MAJORS

Factor	Group Means		F
	Social Studies (n=48)	Science (n=32)	
A. Outdoor	43.81	51.43	4.54*
B. Mechanical	35.18	43.84	9.66**
C. Computational	25.66	30.15	6.93*
D. Scientific	45.10	54.81	18.73**
E. Persuasive	40.72	34.15	5.10*
F. Artistic	22.06	21.53	.05
G. Literary	23.25	17.00	10.40**
H. Musical	9.77	9.50	.03
I. Social Service	45.35	40.81	2.86
J. Clerical	47.52	44.87	.91

** Significant at the .01 level of confidence (7.01 required).

* Significant at the .05 level of confidence (3.98 required).

Social Studies Majors Vs. Industrial
Arts Majors, Male

Six variables help distinguish between the two groups found in Table LVI. According to the F-values computed by the analysis of variance, the industrial arts majors scored higher than the social studies majors on the Mechanical, Computational, and Artistic scales, but scored lower on the Persuasive, Literary, and Social Service variables.

TABLE LVI
 GROUP MEANS AND F-RATIOS, MALE SOCIAL STUDIES
 MAJORS VS. INDUSTRIAL ARTS MAJORS

Factor	Group Means		F
	Social Studies (n=48)	Industrial Arts (n=37)	
A. Outdoor	43.81	48.16	1.70
B. Mechanical	35.18	52.70	58.47**
C. Computational	25.66	29.72	6.32*
D. Scientific	45.10	44.86	.01
E. Persuasive	40.72	35.05	4.18*
F. Artistic	22.06	27.89	6.69*
G. Literary	23.25	16.27	15.58**
H. Musical	9.77	9.32	.09
I. Social Service	45.35	40.35	4.36*
J. Clerical	47.52	48.00	.03

** Significant at the .01 level of confidence (6.96 required).

* Significant at the .05 level of confidence (3.96 required).

Social Studies Majors Vs. English Majors, Male

A comparison of the group means for the social studies majors and English majors is found in Table LVII. The calculated F-values reveal a significant difference in the mean scores on two of these scales. The social studies majors scored significantly higher on the Scientific scale, but the English majors scored significantly higher on the Musical scale.

TABLE LVII
 GROUP MEANS AND F-RATIOS, MALE SOCIAL
 STUDIES MAJORS VS. ENGLISH MAJORS

Factor	Group Means		F
	Social Studies (n=48)	English (n=16)	
A. Outdoor	43.81	38.87	1.11
B. Mechanical	35.18	34.93	.00
C. Computational	25.66	27.68	.84
D. Scientific	45.10	36.12	8.03**
E. Persuasive	40.72	34.31	2.79
F. Artistic	22.06	21.93	.00
G. Literary	23.25	27.37	2.68
H. Musical	9.77	15.43	11.27**
I. Social Service	45.35	44.31	.08
J. Clerical	47.52	47.25	.00

** Significant at the .01 level of confidence (7.08 required).

* Significant at the .05 level of confidence (4.00 required).

Science Majors Vs. Industrial Arts Majors, Male

The F-values obtained by an analysis of variance of the mean scores on each of the ten variables are given in Table LVIII. Very significant differences exist between the two academic groups on Factors B, D, and F. The industrial arts majors scored higher on the Mechanical and Artistic scales, but lower than the science majors on the Scientific scale.

TABLE LVIII
 GROUP MEANS AND F-RATIOS, MALE SCIENCE
 MAJORS VS. INDUSTRIAL ARTS MAJORS

Factor	Group Means		F
	Science (n=32)	Industrial Arts (n=37)	
A. Outdoor	51.43	48.16	.88
B. Mechanical	43.84	52.70	12.99**
C. Computational	30.15	29.72	.06
D. Scientific	54.81	44.86	15.19**
E. Persuasive	34.15	35.05	.10
F. Artistic	21.53	27.89	7.38**
G. Literary	17.00	16.27	.16
H. Musical	9.50	9.32	.01
I. Social Service	40.81	40.35	.03
J. Clerical	44.87	48.00	1.32

** Significant at the .01 level of confidence (7.04 required).

* Significant at the .05 level of confidence (3.99 required).

Science Majors Vs. English Majors, Male

Group differences between science majors and English majors are shown by significant F-values on Factors A, B, D, G, and H. Comparisons of the mean scores of the two groups on the factors, as shown in Table LIX, reveals the magnitude of the differences.

The science majors scored higher on Outdoor, Mechanical, and Scientific. The English majors scored significantly higher on the Literary and Musical scales.

TABLE LIX
 GROUP MEANS AND F-RATIOS, MALE SCIENCE
 MAJORS VS. ENGLISH MAJORS

Factor	Group Means		
	Science (n=32)	English (n=16)	F
A. Outdoor	51.43	38.87	7.15*
B. Mechanical	43.84	34.93	5.25*
C. Computational	30.15	27.68	1.28
D. Scientific	54.81	36.12	33.66**
E. Persuasive	34.15	34.31	.00
F. Artistic	21.53	21.93	.02
G. Literary	17.00	27.37	17.53**
H. Musical	9.50	15.43	9.26**
I. Social Service	40.81	44.31	.88
J. Clerical	44.87	47.25	.47

** Significant at the .01 level of confidence (7.21 required).

* Significant at the .05 level of confidence (4.05 required).

Industrial Arts Majors Vs. English Majors, Male

Table LX presents a summary of the group means on each of the ten variables, along with the F-values resulting from the two-group analysis of variance.

The most outstanding differences when both groups are compared are found in Factors A, B, D, G, and H. The industrial arts majors scored significantly higher on the Outdoor, Mechanical, and Scientific scales. The English majors scored significantly higher on the Literary and Musical variables.

TABLE LX
 GROUP MEANS AND F-RATIOS, MALE INDUSTRIAL
 ARTS MAJORS VS. ENGLISH MAJORS

Factor	Group Means		F
	Industrial Arts (n=37)	English (n=16)	
A. Outdoor	48.16	38.87	4.49*
B. Mechanical	52.70	34.93	36.65**
C. Computational	29.72	27.68	.95
D. Scientific	44.86	36.12	5.86*
E. Persuasive	35.05	34.31	.04
F. Artistic	27.89	21.93	3.75
G. Literary	16.27	27.37	24.98**
H. Musical	9.32	15.43	8.51**
I. Social Service	40.35	44.31	1.51
J. Clerical	48.00	47.25	.05

** Significant at the .01 level of confidence (7.17 required).

* Significant at the .05 level of confidence (4.03 required).

CHAPTER V

SUMMARY, FINDINGS, CONCLUSIONS, RECOMMENDATIONS, AND ADDITIONAL RESEARCH

Summary

This investigation was initiated because of concern for the problem of advising undergraduates and aiding them in the selection of a satisfying academic major.

The study proposed to identify the specific interest characteristics, as measured by Kuder's Preference Record-Vocational, Form C, which could be used as a basis for discrimination among students in selected major areas of study.

The major areas selected for investigation were female graduates from the departments of business, elementary education, English, foreign language, mathematics, social studies, music, and home economics; and male graduates from the departments of business, elementary education, mathematics, physical education, social studies, science, industrial arts, and English.

The raw score data were punched into cards and subjected to a discriminate analysis technique to establish a composite profile of each group and classify each student as belonging to a particular group. The results of this analysis revealed a sufficient dissimilarity in the total interests of all groups to describe a specific profile for each group.

Findings

The findings of the study may be summarized as follows:

- (1) Students in the selected academic areas can be differentiated by certain interest traits.
- (2) Statistical analysis revealed significant differences among all groups tested.

A profile for each group, based on interest traits found to be significant in this study, is given in condensed form. (Composite profiles of all majors can be found in the Appendix.)

When compared to all other female groups:

The business majors scored higher on Clerical, but lower in Social Service.

The elementary majors scored higher on Mechanical.

The English majors scored higher on Literary, but lower on Mechanical, Computational, Scientific, and Persuasive.

The mathematics majors scored higher on Computational, Scientific, and Persuasive, but lower in Artistic and Musical.

The social studies majors scored higher on Outdoor and Social Service.

The music majors scored higher on Musical, but lower in Scientific.

The home economics majors scored higher on Artistic, but lower in Outdoor and Literary.

An interesting aspect of this study included the finding that each of the female groups attained highest and/or lowest scores on at least two variables of the Kuder, except elementary majors who attained a higher score only on the mechanical scale and foreign language majors who attained neither higher nor lower scores on any variable when

compared with all of the female groups studied.

To make assumptions about why particular groups possess unique interest characteristics that would allow them to score higher or lower on this particular inventory could be misleading or completely erroneous, especially when the assumptions are made by researchers who have a limited amount of training in the study and interpretation of interests.

The writer, while heeding the warning signal, will present the following assumptions about selected female majors.

- (1) Elementary majors scored higher on the Mechanical scale because their major is one of the few available and acceptable for women that will allow them to display openly an interest for working with machines, toys, and tools.
- (2) Elementary majors scored higher on the Mechanical scale because the other groups disliked associations for that scale more intensely than did the elementary majors, which could mean that elementary majors also have a dislike for Mechanical associations but not as strongly as the other groups.
- (3) Foreign language majors failed to score either higher or lower on any scale because their interest, that of working with a foreign language, was not included in the inventory.
- (4) Elementary and social studies majors were difficult to classify because their interests closely resembled the interests expressed by other majors. This could be because the specific skills and interests needed for elementary and social studies majors were the same, but of lesser magnitude, than the interests and skills commanded by the other competing majors.

When compared to all other male groups:

The business majors scored higher on Persuasive and Clerical, but lower in Outdoor.

The elementary majors scored higher in Social Service.

The mathematics majors scored higher in Computational, but lower in Artistic, Musical, and Social Service.

The physical education majors scored lower on the Literary.

The social studies majors scored lower on Computational.

The science majors scored higher on Outdoor and Scientific, but lower in Persuasive and Clerical.

The industrial arts majors scored higher in Literary and Musical, but lower in Mechanical and Scientific.

An inspection of the male majors reveals that elementary, physical education, and social studies groups were difficult to classify. They were the only groups that attained higher or lower scores on only one variable of the inventory.

Some assumptions made by the writer concerning these three groups are listed below.

- (1) Elementary majors are difficult to classify. This may be because male elementary majors do not commit themselves to the study of elementary education until later in their academic training; therefore, their interests are not as solidified and would not be as easy to identify as freshmen.
- (2) Physical education majors scored lower on the Literary scale because they perceive their major as having less reading and writing than do the other majors. Maybe they perceive their major as being more physical in nature.

- (3) Social studies majors scored lower on the Computational scale because they perceive their major as having less involvement with numbers and computations than do other majors.
- (4) Maybe social studies and physical education groups represent majors that command fewer specific skills that would have had to have been learned prior to taking the inventory and before an interest could have been developed. For example, people with no aptitude for mathematics could hardly be expected to have a high degree of interest in mathematics. People enjoy doing what they can do well.

Conclusions

Specifically the findings of this study become the basis for the following conclusions:

- (1) The statistical procedure used in this study (discriminate function and analysis of variance) supports the theory that different majors possess certain interest traits which are distinctive to their major area.
- (2) Students can be classified by academic major according to a predetermined interest profile.
- (3) Specific interest characteristics were identified which distinguish one major from another.

Recommendations

- (1) It is recommended that counselors and freshmen advisors utilize the statistical techniques in this study to aid a

student in his search for a satisfying academic major.

It should be realized, however, that interest should not be used alone but in conjunction with other factors including ability, attitudes, and the desires of the student. It is advised that occasional validity checks of these data be made with the passage of time.

- (2) It is recommended that more research efforts in education be directed toward identifying those specific interest characteristics which are directly related to occupational success.
- (3) It is recommended that cross-validation of the findings of this study be carried out in order to verify that these are truly interest differences and not merely a reflection of the interests of this particular sample. This should involve a different sample selected from the major areas with which this study was concerned.

Additional Research

Numerous possibilities for research concerned with student and worker interests exist in the broad field of education. As previously indicated in this study, very little attention has been given to this aspect of student advisement.

Following are suggestions for further study:

- (1) A study of interest traits of graduates actually employed in various academic majors.
- (2) An extensive study to establish a comprehensive profile for various majors.

- (3) An in-depth study to identify those specific interest traits which are essential for success in a program or an occupation.
- (4) A study of interest characteristics of dropouts and failures of specific academic programs to determine whether there are any common traits which might identify the potential failure.

SELECTED BIBLIOGRAPHY

- Anastasi, Anne. Psychological Testing, 3rd ed. New York: The Macmillan Company, 1969, pp. 468-473.
- Barrett, Dorothy W. "Aptitude and Interest Patterns of Art Majors in a Liberal Arts College." Journal of Applied Psychology, 29 (1945), pp. 483-492.
- Bateman, R. M. "The Effect of Work Experience on High School Students' Vocational Choice: As Revealed by the Kuder Preference Record." Occupations, 27 (1949), pp. 453-456.
- Bauernfield, R. H. "The Matter of Ipsative Scores," Personnel and Guidance Journal, 41 (1962), pp. 210-217.
- Bingham, Walter V. Aptitudes and Aptitude Testing. Harper and Brothers, 1937, p. 21.
- Bordin, E. S. "A Theory of Vocational Interests as Dynamic Phenomena." Educational Psychological Measurement, 3 (1943), pp. 297-307.
- Buros, Oscar K. Sixth Mental Measurements Yearbook. Highland Park, New Jersey: Gryphon Press, 1965.
- Callis, Robert, Doral N. West, and E. L. Ricksecker. "An Analysis of Vocational Interest Which Are Measured by the Strong Vocational Interest Blanks." Testing and Counseling Service Report, Vol. 17, No. 7. Columbia: University of Missouri, May, 1963.
- Carter, Harold D. "Vocational Interests and Job Orientation," Journal of Applied Psychology Monogram, No. 2. Stanford, California: Stanford University Press, p. 12.
- Cronbach, Lee J. Essentials of Psychological Testing. New York: Harper and Brothers, 1960.
- Darley, John G. "The Functions of Measurement in Counseling," in E. F. Lindquist, Educational Measurement. Washington, D. C.: American Council on Education, 1951, pp. 74-75.
- Darley, John G. "The Theoretical Basis of Interests." The Strong Vocational Interest Blank - Research and Uses. Ed. William L. Layton. Minneapolis: University of Minnesota Press, 1955, p. 118.

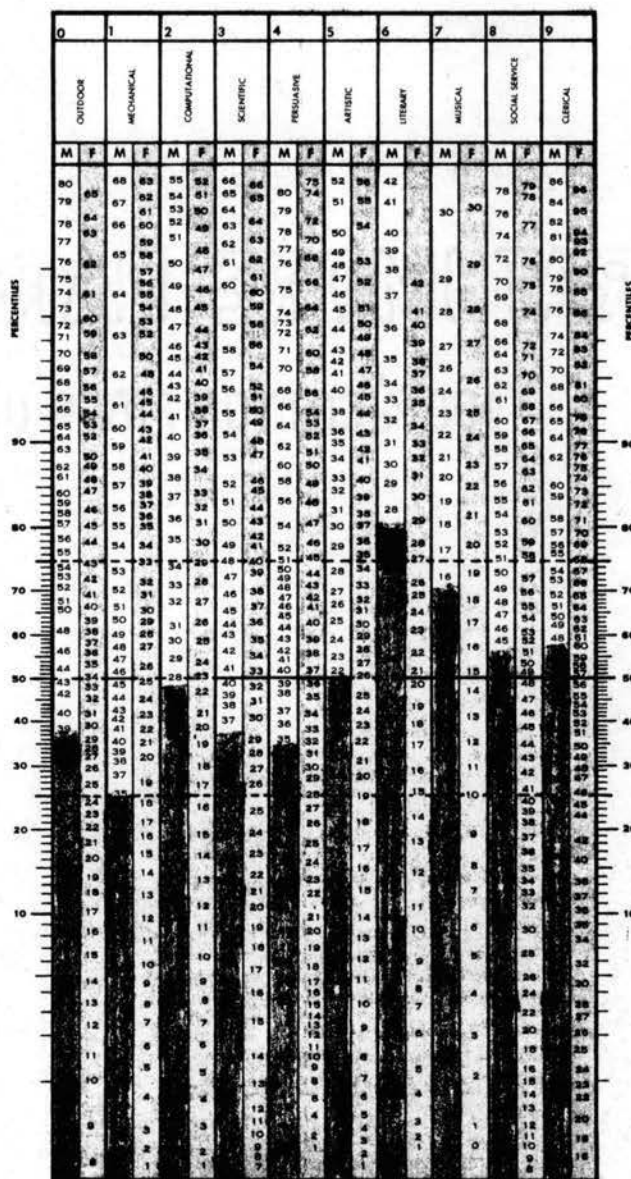
- Darley, John G. and Theda Hagenah. Vocational Interest Measurement. Minneapolis: University of Minnesota Press, 1955.
- Diamond, S. "The Interpretation of Test Profiles." Journal of Applied Psychology, 32 (1948), pp. 512-520.
- Eimicke, V. W. "Kuder Preference Record Norms for Sales Trainees." Occupations, 28 (1949), pp. 5-10.
- Frandsen, Arden and A. D. Sessions. "Interests and School Achievement." Educational Psychological Measurement, 13 (1953), pp. 94-101.
- Freeman, Frank S. Theory and Practice of Psychological Testing. New York: Holt, Rinehart and Winston, 1962.
- Froehlich, Clifford P. and Kenneth B. Hoyt. Guidance Testing. Chicago: Science Research Associates, Inc., 1959.
- Fryer, Douglas. Measurement of Interests. New York: Holt, 1931.
- Hahn, Milton E. and Malcolm S. MacLean. Counseling Psychology. New York: McGraw-Hill, Inc., 1955.
- Hake, D. T. and C. H. Ruedisili. "Predicting Subject Grades of Liberal Arts Freshmen with the Kuder Preference Record." Journal of Applied Psychology, 33 (1949), pp. 553-559.
- Herzberg, Fredrick and Authur Bouton. "A Further Study of the Stability of the Kuder Preference Record." Educational and Psychological Measurement, 14 (1954), pp. 326-331.
- Herzberg, Fredrick I. and D. Russell. "The Effects of Experience and Change of Job Interest on the Kuder Preference Record." Journal of Applied Psychology, 37 (1953), pp. 478-481.
- Hull, Winfred F. Learning: A Survey of Psychological Interpretations. San Francisco, 1963, pp. 129-151.
- Hyman, Bernard. "The Relationship of Social Status and Vocational Interests." Journal of Counseling Psychology, 3 (1956), pp. 12-16.
- Jones, Jerome L. Buros Fifth Mental Measurement Yearbook. Highland Park, New Jersey: Gryphon Press, 1960.
- Jordaan, J. P. "The Relationship Between Socio-economic Status and the Vocational Interest of Mechanically Gifted Boys." (Unpub. doctoral dissertation, 1949).
- Kuder, G. F. "Identifying the Faker." Personal Psychology, 3 (1950), pp. 155-167.
- Kuder, G. F. Kuder Preference Record: Administrators Manual, Form C. Chicago: Science Research Associates, 1960.

- Magill, J. W. "Interest Profiles of College Activity Groups; Kuder Preference Record Validation." Journal of Applied Psychology, 39 (1955), pp. 53-56.
- Matteson, Ross W. "Experience - Interest Relationships as Measured by an Activity Check List." Journal of Counseling Psychology, 2 (1955), pp. 13-14.
- McDaniel, Henry B. and G. A. Shaftel. Guidance in the Modern School. New York: The Dryden Press, 1958.
- McGowan, F. F., R. Collis, and G. A. Rybolt. "Coding the Kuder - An Aid to Interpretation of the Kuder Preference Record - Vocational." Testing and Counseling Service Report, Vol. 16, No. 3. Columbia: University of Missouri, 1962.
- Miller, Adam W., Jr. "Learning Theory and Vocational Decisions." Personnel and Guidance Journal, XLVII (September, 1968), pp. 18-23.
- O'Donnell, Patrick I. "Appropriate Choice of College Student Retention." California Journal of Educational Research, 20 (January, 1969), pp. 24-30.
- Ohlsen, Merle M. Guidance Services in the Modern School. New York: Harcourt, Brace and World, Inc., 1964.
- Phillips, W. S. and R. T. Osborne. "A Note on the Relationship of the Kuder Preference Record Scales to College Marks, Scholastic Aptitude and Other Variables." Educational Psychological Measurement, 9 (1949), pp. 331-339.
- Reid, John W. "Stability of Measured Kuder Interests in Young Adults." Journal of Educational Research, 45 (1951), pp. 307-312.
- Roe, Anne. The Psychology of Occupations. New York: John Wiley & Sons, Inc., 1956.
- Roe, Anne and Marvin Siegelman. The Origin of Interests. Washington, D. C.: American Personnel and Guidance Association, 1964.
- Rosenberg, Nathan. "Stability and Maturation of Kuder Interest Patterns During High School." Educational and Psychological Measurement, 13 (August, 1953), pp. 449-458.
- Russo, Michael. "14 Million Vocational Students by 1975." American Education, V (March, 1969), pp. 10-11.
- Shaffer, R. H. and G. F. Kuder. "Kuder Interest Patterns of Medical, Law, and Business School Alumni." Journal of Applied Psychology, 37 (1953), pp. 367-369.
- Silvey, H. M. "Changes in Test Scores After Two Years in College." Educational Psychological Measurement, 11 (1951), pp. 494-502.

- Strong, Edward K., Jr. Vocational Interests of Men and Women. Stanford, California: Stanford University Press, 1943.
- Super, D. E. "The Kuder Preference Record in Vocational Diagnosis." Journal of Consulting Psychology, 11 (1947), pp. 184-193.
- Super, Donald E. The Psychology of Careers. New York: Harper and Row, 1957.
- Super, Donald E. Appraising Vocational Fitness. New York: Harper and Row, 1962, pp. 376-476.
- Super, Donald E. and P. B. Bachrach. Scientific Careers and Vocational Development Theory. New York: Harper and Row, 1957, p. 135.
- Super, Donald E., et al. Vocational Development, A Framework for Research. New York: Bureau of Publications, Teachers College, Columbia University, 1957.
- Taylor, Leona E. The Psychology of Human Differences. New York: Appleton-Century-Crofts, 1965, p. 187.
- The Strong Vocational Interest Blank, Research and Uses, ed. William L. Layton. Minneapolis: University of Minnesota Press, 1960.
- Triplett, R. J. "Interests of Commercial Students." Journal of Abnormal Psychology, 29 (1934), pp. 409-414.
- Tyler, Leona E. "The Relationship of Interests to Abilities and Reputation Among First Grade Children." Educational Psychological Measurement, 11 (1951), pp. 255-264.
- United States Department of Labor. Dictionary of Occupational Titles. Washington, D. C.: U. S. Government Printing Office, 1965.
- Wert, J. E., C. C. Neidt, and S. J. Ahmann. Statistical Methods in Educational and Psychological Research. New York: Appleton-Century-Crofts, Inc., 1954.
- Wesley, S. M., et al. "The Intra-individual Relationship Between Interest and Ability." Journal of Applied Psychology, 34 (1950), pp. 193-197.

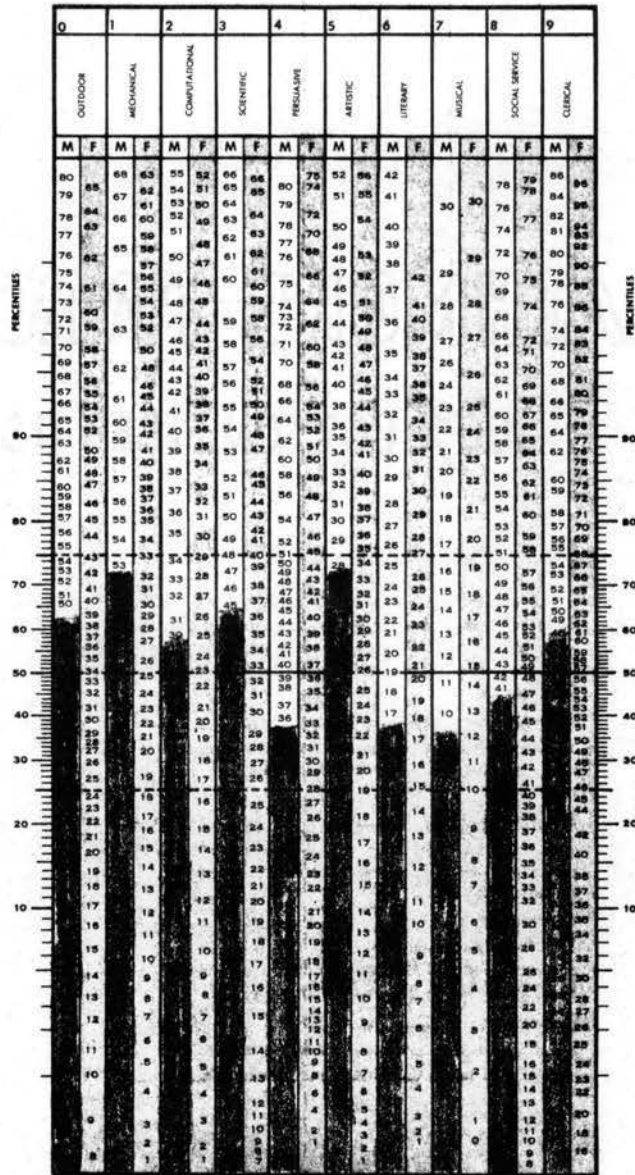
APPENDIX

COMPOSITE PROFILE OF MALE ENGLISH MAJORS

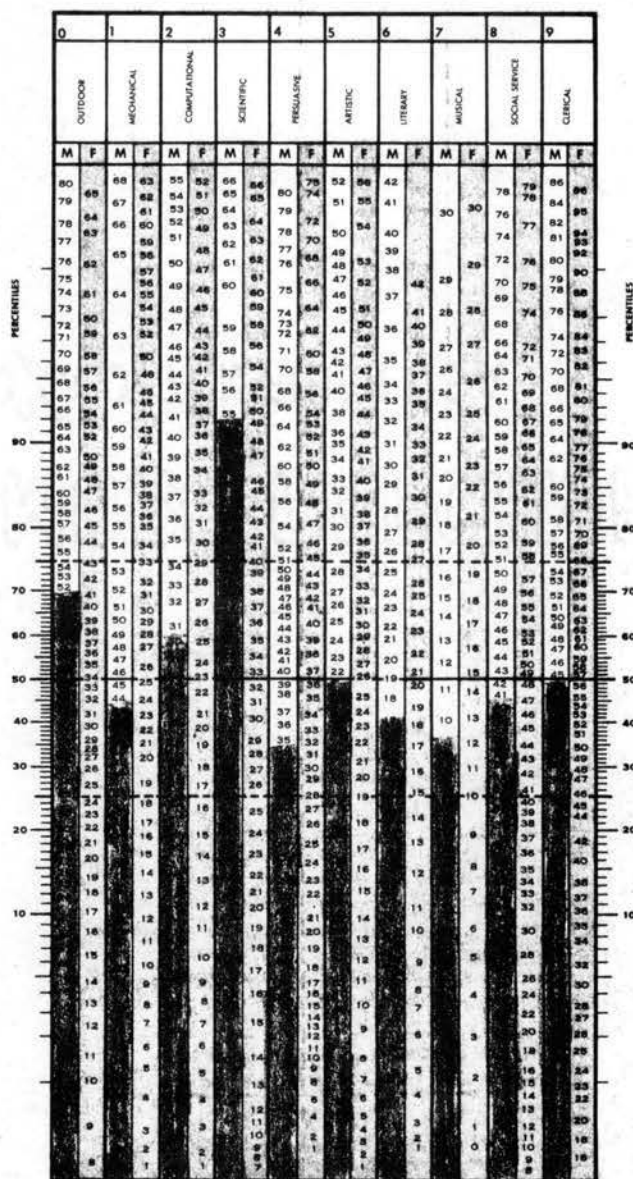


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COMPOSITE PROFILE OF MALE INDUSTRIAL ARTS MAJORS

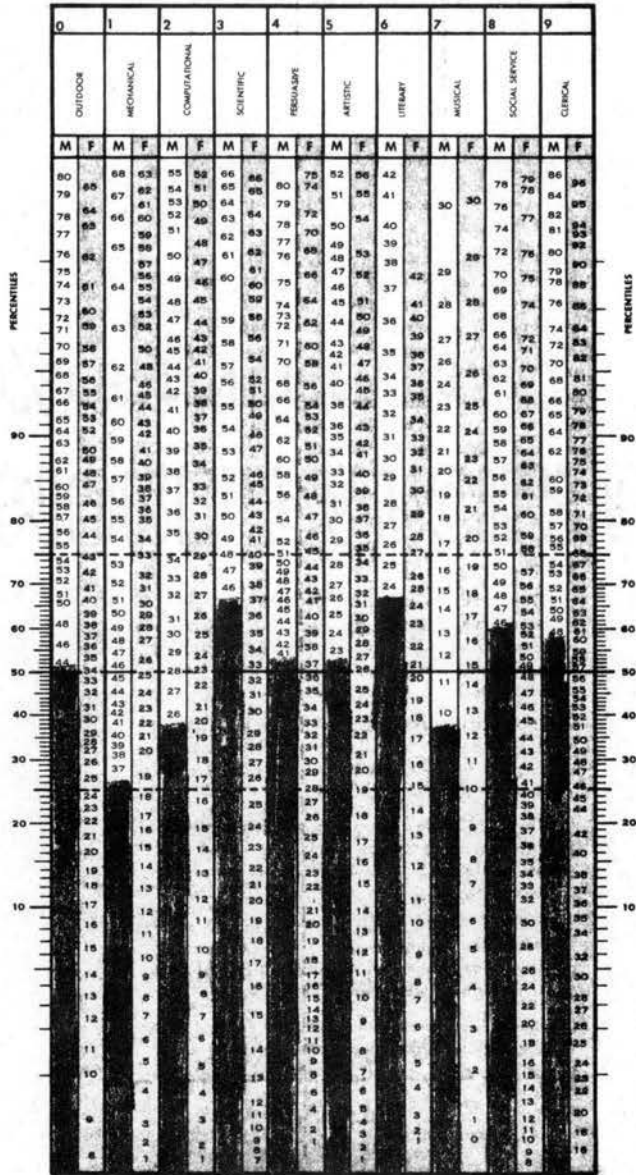


COMPOSITE PROFILE OF MALE SCIENCE MAJORS



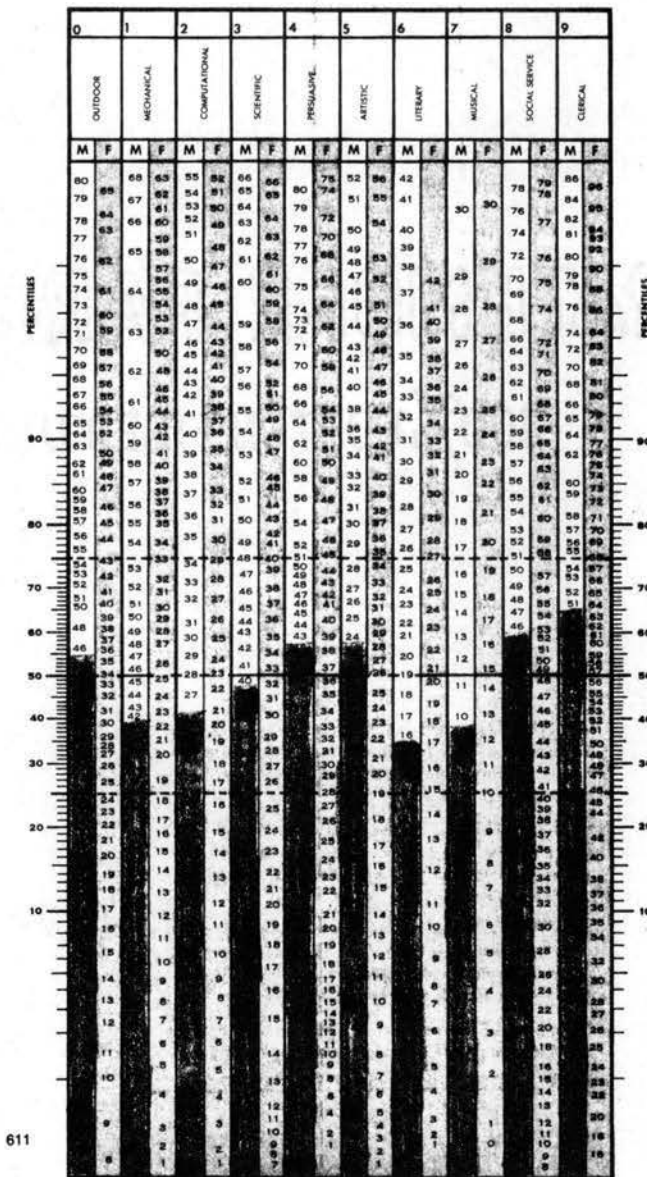
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COMPOSITE PROFILE OF MALE SOCIAL STUDIES MAJORS



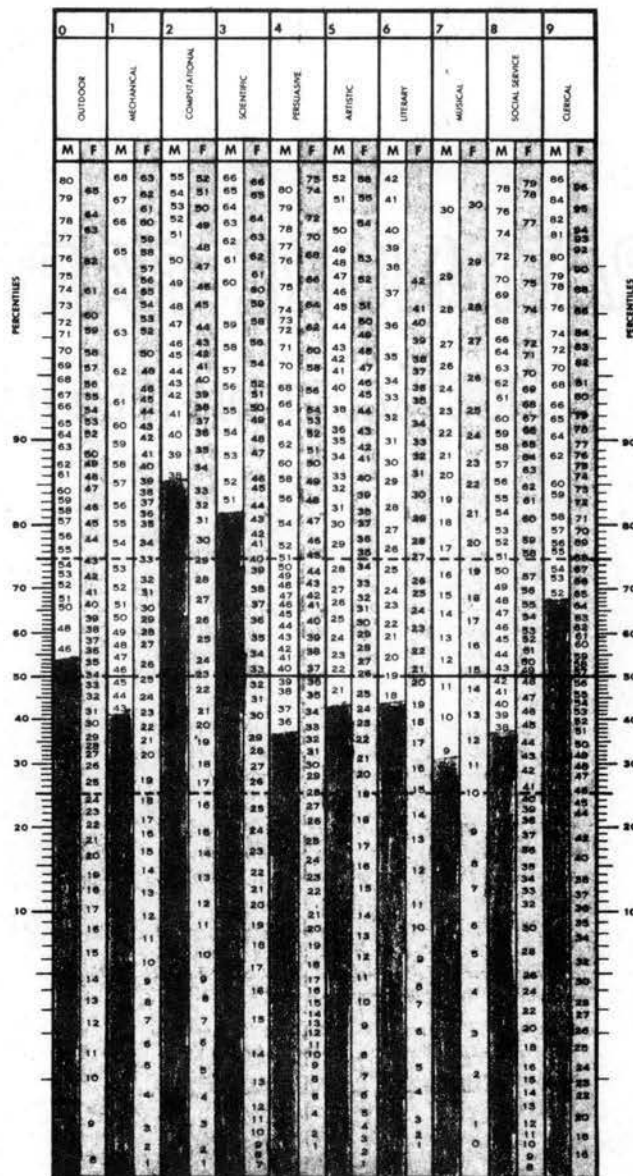
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COMPOSITE PROFILE OF MALE PHYSICAL EDUCATION MAJORS



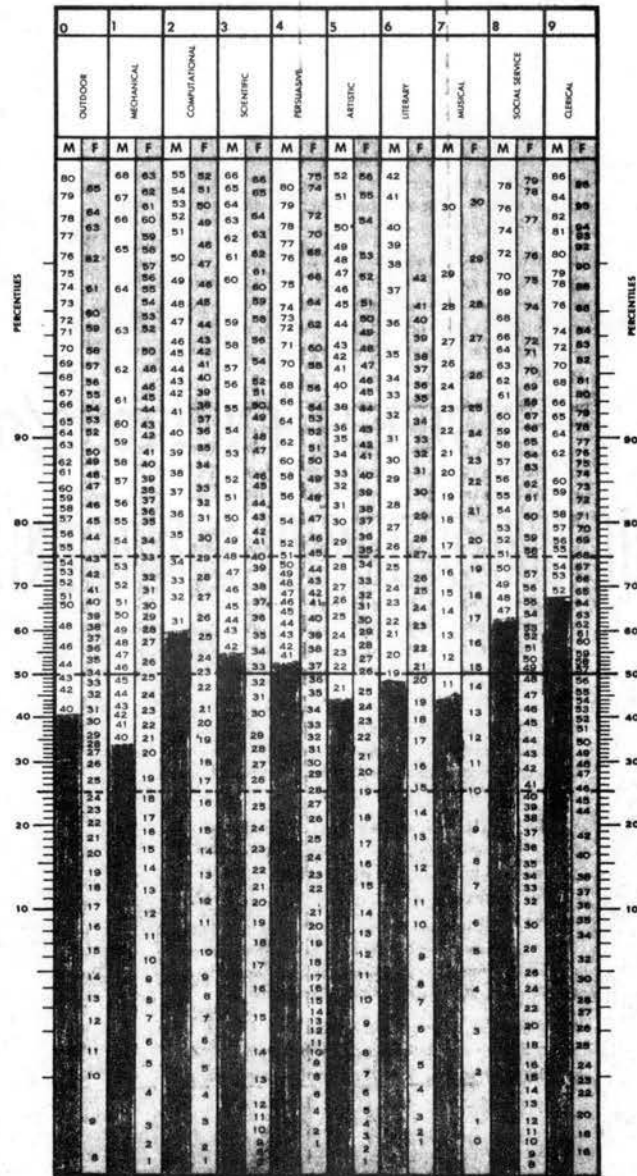
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COMPOSITE PROFILE OF MALE MATHEMATICS MAJORS



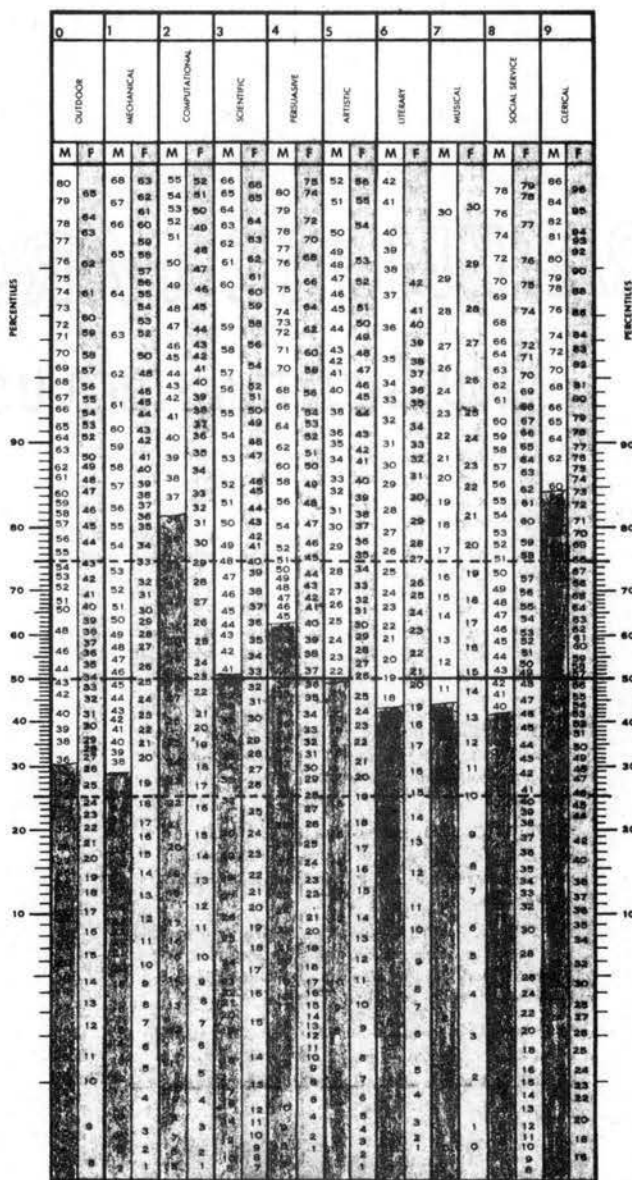
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COMPOSITE PROFILE OF MALE ELEMENTARY MAJORS



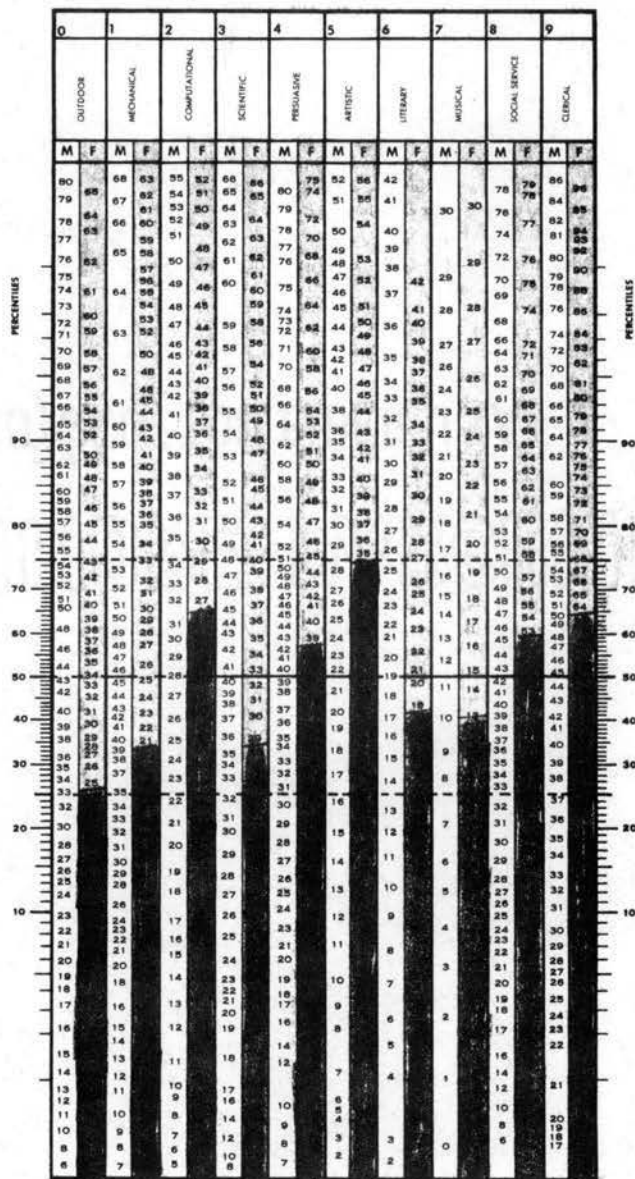
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COMPOSITE PROFILE OF MALE BUSINESS MAJORS



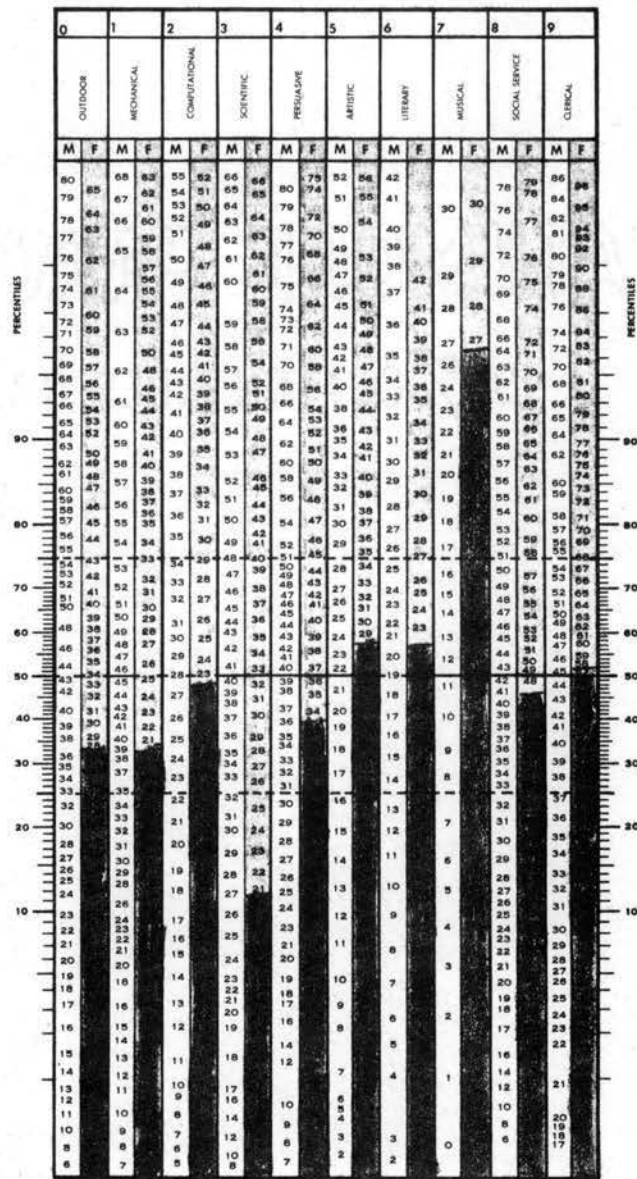
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COMPOSITE PROFILE OF FEMALE
HOME ECONOMICS MAJORS



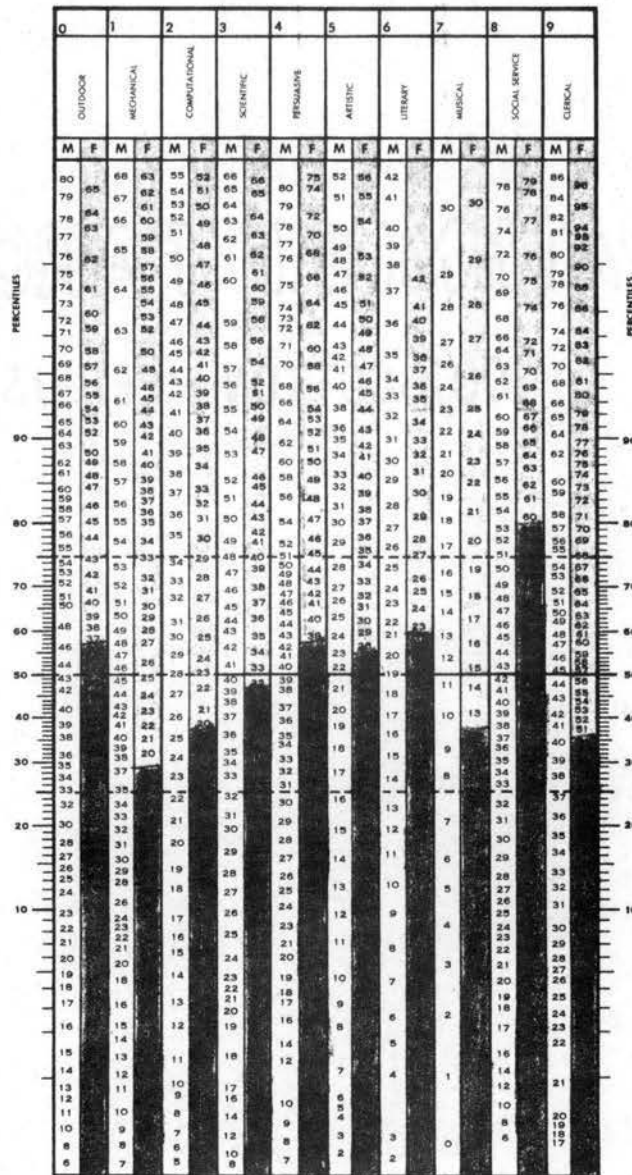
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COMPOSITE PROFILE OF FEMALE MUSIC MAJORS



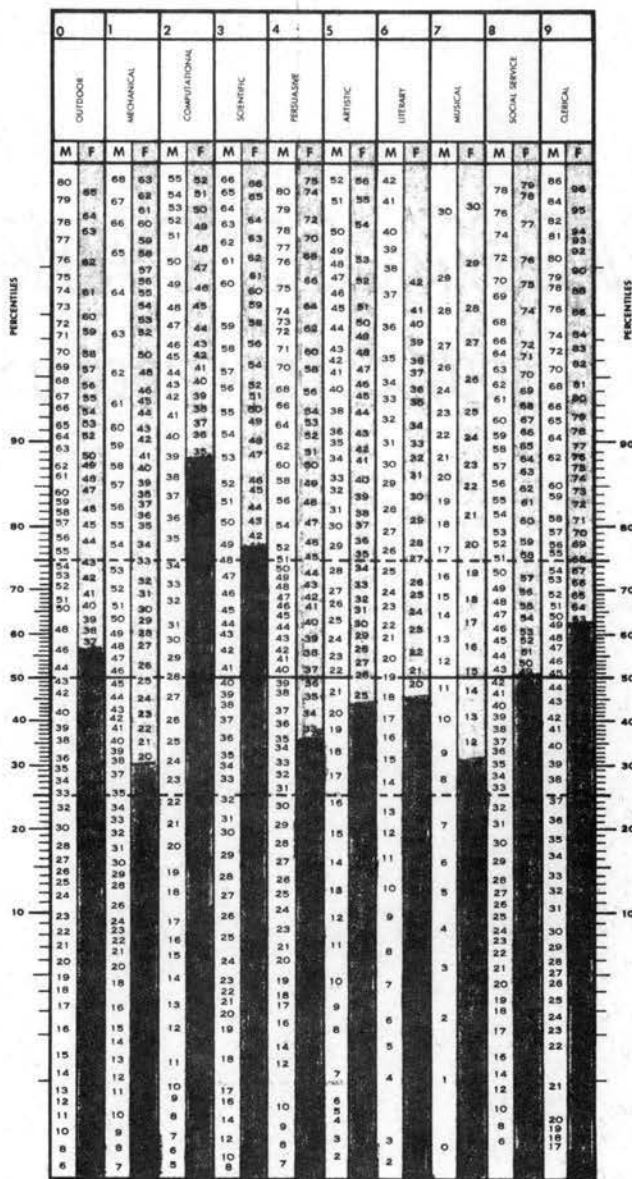
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COMPOSITE PROFILE OF FEMALE
SOCIAL STUDIES MAJORS



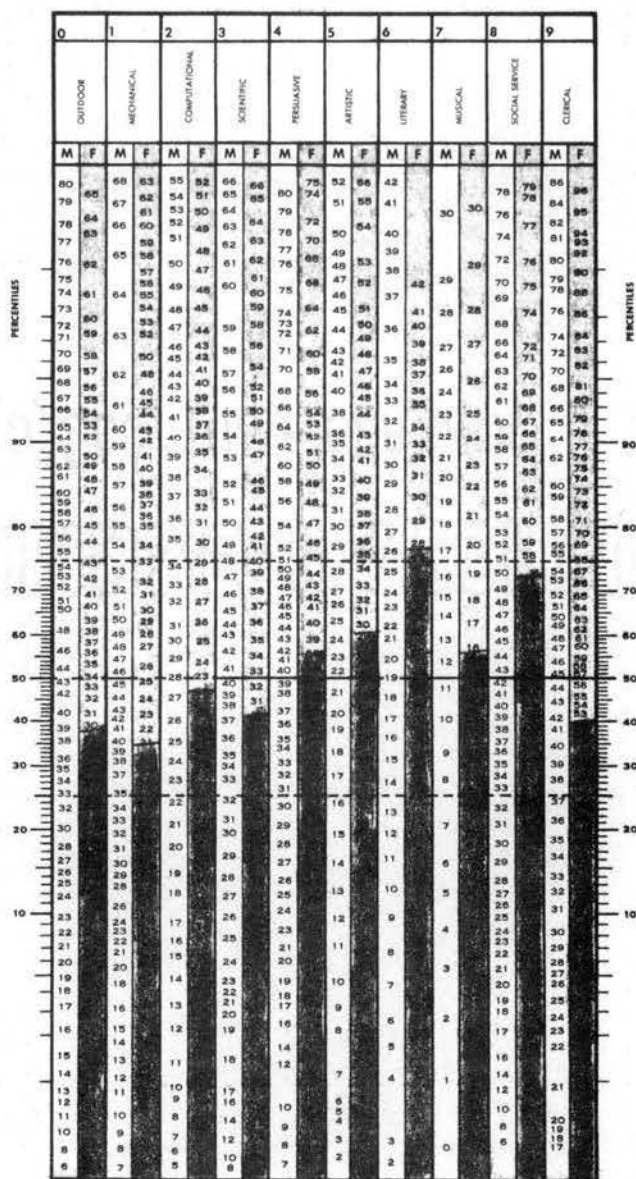
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COMPOSITE PROFILE OF FEMALE MATHEMATICS MAJORS

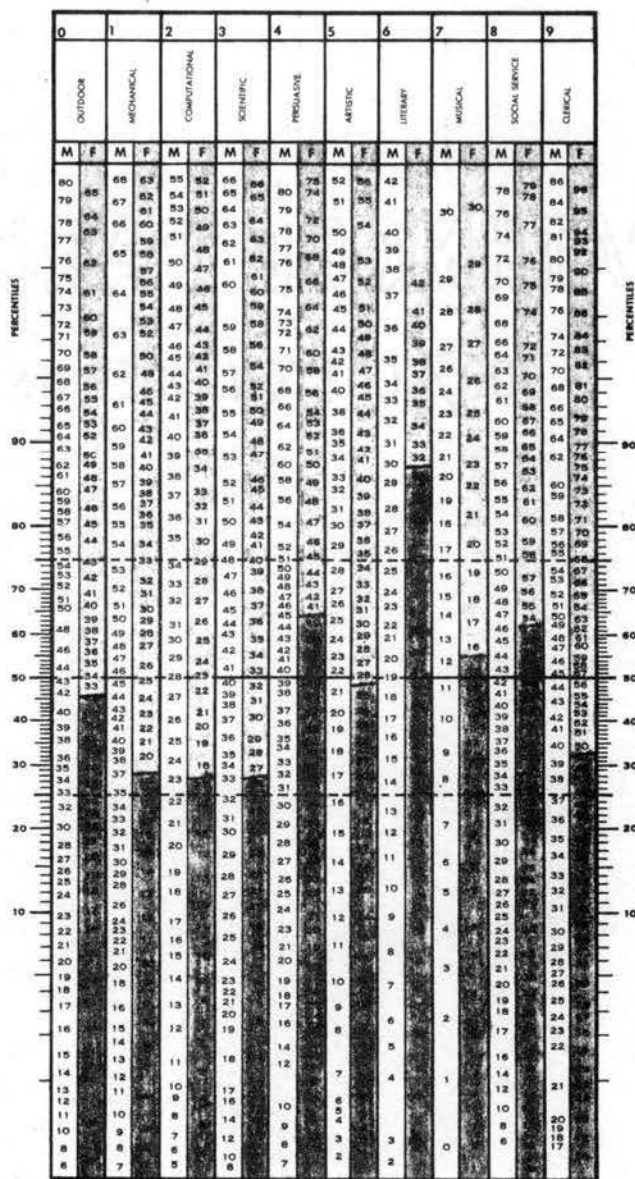


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COMPOSITE PROFILE OF FEMALE
FOREIGN LANGUAGE MAJORS

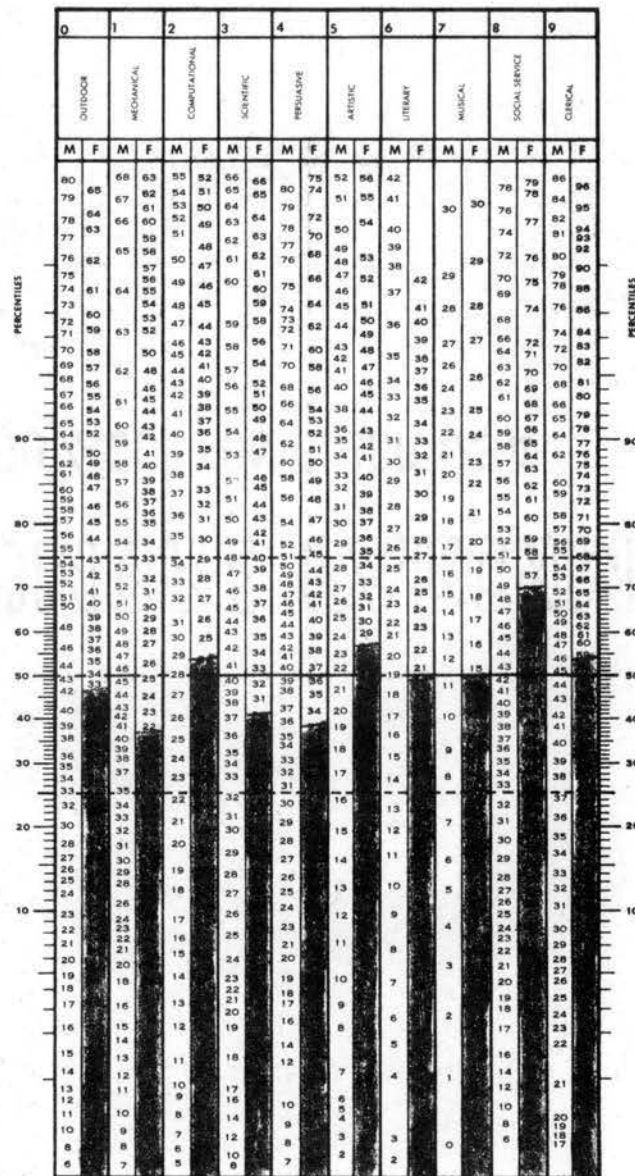


COMPOSITE PROFILE OF FEMALE ENGLISH MAJORS



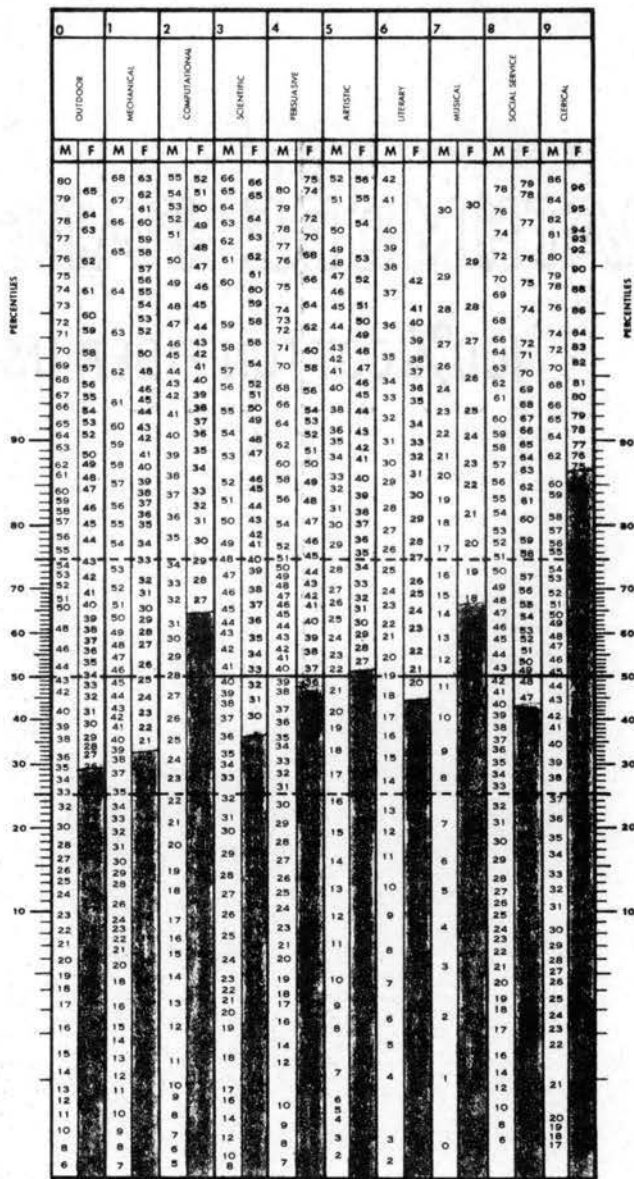
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COMPOSITE PROFILE OF FEMALE BUSINESS MAJORS



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VITA

Phil Randolph Dunham

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Doctor of Education

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Professional Experience: Elementary teacher and principal, Hayward Public School, 1960-63; elementary teacher and principal, Douglas Public Schools, 1963-65; elementary teacher and principal, Pleasant Vale Schools, 1965-66; elementary principal, Hominy Public Schools, 1966-69; Graduate fellow, Oklahoma T.T.T. project, Southeastern State College, 1969-70. Elected Associate Professor of Education at Phillips University, Enid, Oklahoma, August, 1970.