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AN ANALYSIS OF FACTORS AND CRITERIA RELATED TO THE ADMISSION OF BORDERLINE CASES AT MICHIGAN STATE COLLEGE, FALL QUARTER 1952

By

GAIL FREDERIC FARWELL

A DISSERTATION

Submitted to the School of Graduate Studies of Michigan State College of Agriculture and Applied Science in partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

Department of Guidance and Counselor Training

1954

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GAIL FREDERIC FARWELL ABSTRACT

This study is an investigation of the characteristics of borderline admissionees and their subsequent academic success during the first year of college enrollment at M.S.C. Each year a considerable number of applicants are admitted to Michigan State College on the basis of a program of individual testing and counseling rather than by the criteria regularly used. Specific purposes included the investigation of: 1) group similarities and differences that exist for borderline admissionees, regular admissionees and those refused admission with respect to personal, family and home, and secondary school background; 2) the relationship between common orientation test factors, high school rank and the recommendation of high school officials, and the cumulative grade-point-average in college for the borderline and regular admissionees; 3) the relationship between recommendations made by the Michigan State College counselors and the cumulative GPAs for the borderline admissionees.

Three groups of two-hundred and twenty-eight applicants each were utilized. They were as follows: 1) borderline admissionees - those applicants admitted on the basis of an individual testing and counseling program; 2) regular

admissionees - those applicants admitted on the basis of the usual criteria of high school record and recommendation; and 3) the refusals - those applicants not granted admission to Michigan State College.

Correlations were computed for the borderline and regular admissionees to ascertain the relationship between selected criteria and the respective cumulative grade-point-averages for the three terms of the freshman year. Percentage tables were assembled showing the frequency of each application factor for each of the three samples. An analysis was made and a report rendered of the similarities and differences.

The major findings emphasized the group similarities with respect to application blank information with the exception of high school academic achievement. At the same time, a wide range of differences was found for individual applicants in all three groups. The obtained correlations between derived scores of the orientation tests and the cumulative GPAs for the regular sample ranged between .45 and .50. These are similar to those found by other investigators. However, an increasing relationship was found with cumulative GPAs for successive school terms. High school rank and cumulative GPAs in college revealed similar average r's.

Correlations of .20 to .30 were obtained for the borderline sample when considering the same factors.

Correlations between high school recommendations and cumulative GPAs for both samples ranged between .12 and .26. When percentage tables were established, as to predictability of the applicant meeting the minimum passing standard of 2.00, the value of the recommendations was somewhat more favorable. The M.S.C. counselor recommendations for the borderline admissionees correlated .33 with the first term GPA, and .58 with the 2nd and 3rd term cumulative GPAs. This would appear to justify a continuation of this program of admissions for this type of applicant.

The high school recommendations were incomplete or cursory in more than seventy percent of the applications. When both secondary school and college officials believe recommendations are of real importance, a more serious approach and a more complete exchange of information appears to be dictated.

TABLE OF CONTENTS

CHAPTER Page

LIST OF TABLES

TABLE Page

TABLE Page

CHAPTER I

INTRODUCTION AND STATEMENT OF THE PROBLEM

This study dealt with a description and analysis of borderline cases for admission at Michigan State College by comparing three similar sized groups in the class entering in 1952. Those individuals comprising the major group studied were classified as borderline admissionees. One of the comparative groups was admitted under the standard procedure of admissions employed at Michigan State College; the second comparative group of candidates was not admitted.

I. THE PROBLEM

Statement of the problem. College admissions policy, referred to generally as college admissions, long has been of paramount importance to administrators, personnel workers and teachers. An institution's life-blood is concentrated in its student body. The selection of this student body directly affects the reputation of an institution academically and socially. A state supported institution, such as Michigan State College, gains its financial support from public funds and thus has a definite service function to perform relative to the population of the State.

Federal legislators long ago recognized that it was desirable to assist the general population in their quest of knowledge in light of their aptitudes and needs. This resulted in the establishment of Land Grant Colleges. Michigan State College is also the Land Grant College for Michigan. The Land Grant Colleges are the result of the Morrill Act which provided that the proceeds from the sale of lands granted under the act were to be used for the endowment, support, and maintenance of at least one college in each state and territory where the leading object should be, without excluding other scientific or classical studies, to teach such branches of learning as are related to agriculture and mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life.

College admission authorities are interested in selecting deserving and desirable applicants for admission to the institution. To meet its obligations to the applicant, to the college, and to society, a college establishes certain admission procedures for the selection of candidates. Fine (30) in summarizing information gathered from hundreds of institutions found that college admissions authorities seek a number of specific characteristics and qualifications

which tend to reveal the candidate's make-up, aptitude, and promise of collegiate success. Colleges want students who have a good health record and are in good physical condition. Colleges want students who have the ability to cooperate with other students and faculty members. Colleges want students who know how to study and who possess a serious attitude toward college work. Colleges seek students who are emotionally mature. Specifically, he found that colleges seek students who have good character. In order to obtain this information, colleges rely largely on the recommendation either of the high school principal or of the teachers.

At Michigan State College the philosophy prevails in the Admissions Office that the institution assumes the obligation to do everything in its power to enable a student to graduate who has been admitted, providing the student puts forth the amount of effort that can be expected of him. The administrative policy, the admissions policy, the function of personnel workers and the efforts of the instructional staff are dedicated to this ultimate goal. The best method of selection at the disposal of the admissions office should be utilized to meet this obligation.

The problem of this study. Each year a sizable group of applicants receive acceptance as candidates on the basis

of an individual testing and counseling procedure. This study was concerned with the factors considered in the analyzation of the candidates' qualifications and to compare that with his college success during his first year of attendance at Michigan State College. Was this program of admissions justified? To evaluate such an admissions procedure it was desirable to compare these applicants with applicants who did not gain admission and with applicants who were admitted via procedures other than individual testing and counseling.

The present investigation has a two-fold purpose: first, to ascertain individual and group characteristics and trends that appear in the three groups as gathered from the application blank exactly as it was received in the admissions office; and second, to follow-up the testing and counseling admissionees and the regular admissionees to ascertain differences and similarities in respect to their accomplishments for one academic year of three terms.

More specifically, this research was an attempt to determine:

1. The usefulness of the data given on the college application blank in the selection of candidates for Michigan State College.

2. The differences that exist with respect to the information requested on the application blank among testing and counseling admissionees, regular admissionees and refusals.

3. The relationship between American Council on Education Psychological Examination (ACE) derived scores of the two admissionee groups and the first term grade-point-averages obtained at Michigan State College.

4. The relationship between ACE derived scores of the two admissionee groups and the cumulative second term grade-point-averages.

5. The relationship between ACE derived scores of the two admissionee groups and the cumulative third term grade-point-averages.

6. The relationship between MSC English Usage Test derived scores and cumulative MSC grade-point-averages of the two admissionee groups for the three terms of the freshman year.

7. The relationship between MSC Arithmetic Proficiency Test derived scores and cumulative MSC grade-point-averages of the two admissionee groups for the three terms of the freshman year.

8. The relationship between MSC Reading Test derived scores and cumulative MSC grade-point-averages of the two admissionee groups for the three terms of the freshman year.

9. The relationship between High School Class Rank and cumulative MSC grade-point-averages of the two admissionee groups for the three terms of the freshman year.

10. The relationship between the high school recommendation and cumulative MSC grade-point-averages of the two admissionee groups for the three terms of the freshman year.

11. The relationship between the Michigan State College Counselor recommendations for the testing and counseling admissionees and cumulative MSC grade-point-averages for the three terms of the freshman year.

12. The relationship between the previous cumulative grade-point-averages and the subsequent cumulative grade-point-averages of the two admissionee groups.

13. The differences that exist between the two admissionee groups with respect to action of personnel groups - specifically the Counseling Center and the Office of the Dean of the Basic College.

Importance of the problem. Each year the admissions office encounters the problem of selecting the entering student body. This must be done in light of many factors - institutional objectives and philosophy, institutional capacity for handling a specified enrollment, selection of in-state and out-state students, selection of those with the capacity

to succeed in the particular educational institution and in an appropriate major area of study, reduction of the mortality rate, and a policy of fairness and equal opportunity to each applicant.

There are many current trends which make the selection process increasingly complex and difficult. The demand for college trained personnel has been on the increase. An increasingly larger number graduate from high school each year and consequently there has been a larger number of applicants seeking admission to institutions of higher learning. Young men face the problem of serving in the Armed Forces of the United States for a certain period of time. Deferment from this service has been on the basis of his accomplishment in his college program and his ability to pass an examination administered by the Selective Service. It should also be recognized that, after military service, young men returning to college have the opportunity to continue their education under the provisions of the G.I. Bill of Rights. The college student must maintain a C average (2.0) in the Basic College in order to be admitted to an Upper School of Michigan State College. The admissions function has been regarded as an intimate part of the over-all personnel function. Increasingly, institutions of higher learning are considering their function as that of all-around development of the individual -

socially, emotionally, physically and academically - rather than the old-line thinking which concentrated solely on the academic development of the student. All of these things add to the complexity of the admissions officer's task.

The personnel of high schools (public, parochial and preparatory) also are vitally concerned with the problems of college admissions. The high school assumes the task of preparing the candidate so that he may meet the requirements of college candidacy adequately. Through the mutual understanding and exchange of information the programs of the high school and institution of higher learning can be more closely integrated. The personnel and instructional techniques of both levels of education then can be improved advantageously with respect to public funds, adjustment of the candidate and efficient operation of all phases of the program.

There was a considerable amount of available information and research on various selective techniques, on predictive studies relative to successful completion of a college program, and on work adjustment in relation to academic backgrounds.

The present investigator found that there was a dearth of research which analyzed the differences and similarities

between the two levels of admissionees as defined in this investigation. This research was undertaken to ascertain the differences and similarities between these groups, to follow-up on their academic achievement and to justify the continuance of a program of individual admissions through testing and counseling for the applicant that was deemed a decided risk.

It is important to know more about admissionees to facilitate:

1. Proper selection of all candidates for Michigan State College.

2. Verification of the adequacy of application forms and procedures used.

3. Improvement of the personnel services.

4. The reduction of the mortality rate.

Limitations of the study. The following limitations are inherent in this study and the value of its findings are restricted, accordingly.

1. The gathering of data from the application blank of the candidate was subject to the usual fallacies inherent in a subjective approach of giving the information requested. It must be assumed that the candidate and the high school authorities have given the most objective information available.

2. The admissionees studied are those applying at Michigan State College. Thus the findings are more applicable at this institution than in any other college. To be more complete, it would have been desirable to obtain samples from many public institutions if the findings were to have national scope or to obtain samples from other publicly supported institutions in the State of Michigan if state-wide scope is to be applied.

3. It has been generally assumed that college academic success can be measured in terms of the college-grade-point-average. This grade-point-average results from instructors' grades and became subject to the known lack of objectivity in the granting of grades. A student, however, graduates or advances to the Upper School on the basis of this grade-point-average.

4. The complete group of admissionees (228) accepted on the basis of testing and counseling was utilized. Only random samplings of the same number (228) are utilized in the group of refusals and the group of regular admissionees. The possibilities of errors inherent in the random selection process therefore enter into the results obtained.

5. The follow-up of the two groups admitted was limited to one academic year.

6. No attempt was made to determine what happened to the refusals, or what happened to candidates who were not enrolled during the second and third terms or who were dropped by the Dean of the Basic College or the Dean of Students.

II. DEFINITION OF TERMS

Borderline Admissionees. Those candidates admitted on the basis of individual testing and counseling. Hereafter, the terms borderline or T & C admissionees will be utilized to denote this group.

Regular Admissionees. Those candidates admitted on the basis of information given on the application blank which was completed by the candidate and the high school authorities.

Refusals. Those candidates refused admission on the basis of information given on the application blank which was completed by the candidate and the high school authorities, and in some cases additional information from the individual testing and counseling procedure.

The American Council Psychological Examination. The American Council on Education Psychological Examination for College Freshman is one of the most commonly used tests of general academic aptitude. It is a member of a series of examinations of like content that have been designed for measuring aptitude at the college level. This was the academic aptitude test used in this study. The test gives three scores: a) Q-Score: Measures abilities involved in

quantitative thinking. Probably most significant in measuring abilities in scientific and technical curricula. b) L-Score: Measures linguistic abilities. Probably most significant for language, literature, social studies, etc. c) Total Score: Sum of Q and L scores. A measure of general college ability. The abbreviation, ACE, will refer to this examination.

The Michigan State College Reading Test. The M.S.C. Reading Test is a measure prepared, used, and validated by the M.S.C. Board of Examiners for ascertaining general reading ability. This was the reading measure utilized in this study. The test furnishes three scores: a) Vocabulary (V): A measure of general reading (recognition) vocabulary. b) Comprehension (C): A measure of reading comprehension. c) Total Score: A measure of general reading ability. The abbreviation, MSCRT, will refer to this measure.

Test of English Usage. The M.S.C. Test of English Usage is a measure designed to test the capabilities of the student in basic English skills. It was assembled and validated by the Communications Skills Department and the Board of Examiners of Michigan State College. This was the English Language measure utilized in this study. This test furnishes a Total Score (E): A measure of proficiency in grammar and expression. The abbreviation, MSCTEU, will refer to this measure.

Arithmetic Proficiency Test. The M.S.C. Arithmetic Proficiency Test was constructed by the Arithmetic Improvement Service and the Board of Examiners of Michigan State College and has been locally validated. It is a measure of capabilities to handle basic mathematical concepts. This was the mathematical measure utilized in this study. This test furnishes a Total score (A): A measure of proficiency in arithmetic. The abbreviation, MSCAPT, will refer to this measure.

Derived Scores. Each of the above four tests are reported in terms of Derived Scores. Derived scores are based upon a standard ten point scale ranging from 1 (the lowest) to 10 (the highest). The scale reduces the percent of students in the extremes and increases the percent in the middle of the scale. Note that under this system extreme scores become much more significant in indicating superior or inferior ability. The Derived Score Distribution for Tests, Fall 1952, as established by the Michigan State College Board of Examiners was utilized in this study and the terms, Derived Scores, will refer to these standard scores. It will be noted from this definition that these are not decile scores.

Grade-point-averages. The abbreviation, GPA, refers to the grade-point-average of the individuals in all of their college courses taken at Michigan State College. The Michigan State College marking system employs a point system ranging from 0.00 to 4.00 with the following point values for letter grades: D - 1.0; C - 2.0; B - 3.0; and A - 4.0. Some students have a few transfer credits. These credits and marks are not included in the GPA reported in this study.

III. THE ADMISSIONS FUNCTION

It would appear appropriate to review briefly the role the admissions office and the admissions officer plays in selecting prospective students for an institution. The scope of the problems faced by the admissions office seems to be of great magnitude.

The contribution of the admissions officers or registrars to the work of an institution should be conceived more broadly than the guardian of academic standards and records. Little (58) conceives the registrar's office as the place in which records and record systems are developed, maintained, and safeguarded. This office is able to plan its records and procedures so as to provide essential student information to other offices without too much duplication of effort. The personnel records may be planned to provide a useful flow of

information beginning when the student becomes an applicant and continuing until he becomes an alumnus. An integrated counseling program is possible which starts with the initial orientation of new students and continues to the placement of graduates, and keeping records of alumni achievements. The office of the registrar is closely tied in with the top administrative council of the institution. Enrollment trends and statistics and knowledge of student activities and achievements are vital to many administrative decisions. If the admissions office is a vital part of the personnel program, the chief student personnel officer is well prepared to present such matters and to represent students in matters which concern their welfare.

Basic to the function of any office or institution is a policy of human relations. Admissions is a public relations job which deals with the student, parents, high school principals, high school counselors, the high school program, the alumni and others. Danner (23) in an expression of opinion emphasized that institutions should gear their admissions policies to their objectives. Therefore, when a student is admitted to an institution, there should be reasonable assurance that he will succeed provided there is proper application of time and talents. To this end, it is necessary for the

Admissions Officer to have before him, in addition to the high school grades, results on certain tests and other pertinent information about the student's weaknesses and strong points. It is a part of good admissions to determine whether or not a student's previous background is appropriate for the particular objective or curriculum he wishes to pursue.

All too frequently a registrar or admissions officer has been viewed as the keeper of records, with these records viewed only in the concept of impersonal statistics. However, McVey and Hughes (64) viewed these records as containing the story of what actually is happening in the field of higher education; therefore, constant, intensive attention must be given to the data in the registrar's office so that the personnel will know the means and the ends. Many times it has been said that anyone can get into college, but these people do not understand the responsibilities and obligations which are entailed when an applicant is accepted for admission. Little (58) emphasized this fact when he viewed the central function of a registrar's office as interpretation. This involves the interpretation of the institution to prospective students and their parents, pointing out the institution's opportunities and requirements. In turn, interpretation of the students to the institution, pointing out their special interests, capacities and needs is a desirable

action. This office is in an advantageous spot to interpret to the faculty student progress and achievement, or the lack of it, pointing out areas for study of curricular, marking, and admissions practices.

Admissions has long been of concern to both the secondary school and the college. Rosenlof (82) stated at a national meeting of registrars in 1951 that the North Central Association of Colleges and Secondary Schools came into being in 1865 for the express purpose of integrating secondary and college education. It was hoped that there might be built a closer, more compact relationship between the secondary school and the college.

Rosenlof (82) elaborated considerably on the complete change in the relationship of student bodies. In 1865, he pointed out, integration was important because the secondary school at that time was a very selective type of institution, whereas in 1952 it is very important because the secondary school is no longer a selective institution.

He further indicates that in 1865 the secondary school was selective because nearly one hundred percent of its graduates went on to college and, hence it was thought there had to be a coordination of effort and a correlation of activity. In 1952, according to the statistics, twenty five to thirty percent of the graduates of the high schools go to college.

Currently many institutions are in a quandary as to what to do about the future enrollment which is being predicted. Are there implications for admissions policies? Michigan State College is a public institution and has a responsibility to the citizens of the state. This institution follows certain policies on admitting prospective candidates. Are these policies the best possible? This question can be answered only by continually evaluating procedures. Little (58) summarized by emphasizing that the main job of the registrar was to keep abreast of education and its developments; to conduct research upon the student personnel data which he has; and to interpret this research through conference, discussion, and publication.

Administrations of colleges in considering enrollment must review past enrollments and ascertain future population trends. In reporting on enrollment for 1951 Badger (5) noted that enrollment information was gathered from 1,859 institutions. These institutions range in size from 45,186 students in one to only two in another. Institutions under public control as a rule are larger than those under private control. The median and quartiles 1 and 3 for publicly controlled institutions were proportionately much larger than those for institutions under private control. There is every indication that enrollments in the next decade will be on a decided increase. This is of particular importance to

Michigan State College because its enrollment of approximately 14,000 makes it one of the larger publicly controlled colleges in the country. The admissions problem becomes quite complex in these public institutions.

To adequately serve the population, the criteria for admitting and refusing applicants must be kept under careful scrutiny, and this information used in relation to the capacity of the institution to provide instructional facilities. This research centers in the registrar's office. Little (58) believes that this office needs to be continuously at work to develop improved counseling, information and procedures based on research. This information should currently interpret the institution and its courses and requirements to the prospective students, reduce the academic casualty rate for the attending students, improve educational and occupational counseling, and increase satisfactory job placement.

If borderline cases are to receive the best consideration, all possible information should be obtained and evaluated so that the advisability or inadvisability of college admission will offer the most logical action for the candidate and the school. Rosenlof (82) emphasized this when he stated ".....we must get down to the business of research in the field of admissions requirements and work out a satisfactory solution if we are to establish any kind of right relationships

between institutions at the secondary level and institutions at the collegiate level, the combination of which will result in a more effective, decent program of education for youth in these troublesome times in which we are living."

IV. THE PLAN OF THE THESIS

This first chapter has introduced the problem, the limitations of the study, the definition of terms, the admissions function.

Chapter II - Review of Literature on Admissions Studies and Testing Procedures.

Chapter III - Review of Basic Admissions Procedure at Michigan State College.

Chapter IV - The Description of the Sample, The Procedures Used Collecting, Organizing and Tabulating the Data, and the Techniques employed in Analyzing Them.

Chapter V - Comparative Analysis of the Application Data and Test Scores.

Chapter VI - Presentation of the Findings Showing the Relationship Between Selected Criteria and Scholastic Success for Regular and T & C Admissionees.

Chapter VII - Conclusions and Recommendations.

CHAPTER II

REVIEW OF LITERATURE ON ADMISSIONS STUDIES AND TESTING PROCEDURES

Certain aspects of this study dictate the review of literature that is presented in this chapter. To gain insight into the basic problem of this study, it appears pertinent that one should consider the thinking of personnel actively engaged in the problem of admissions. Not only are admissions officers involved, but high school principals and counselors, college counselors and college administrators are included.

The program of admissions on an individual testing and counseling basis herein examined dictates that one consider pertinent literature with respect to prediction of success in college. The criteria used for selection and for evaluating success in college are grades. Thus, the literature concerning grades given by instructors was examined because class rank and grade-point-averages are dependent on this factor.

The amount of literature present that refers to prediction in education is voluminous and to review the complete field would require a considerable amount of time and space.

There have been many periodic reviews of the literature on prediction (Segal (88), Durflinger (28), Borow (11), Johnson (50), Cosand (19), Garrett (36), Douglas (27)) which bring together the facts in many of the pertinent researches and summarize the findings which make a complete review unnecessary.

I. LITERATURE ON COLLEGE REQUIREMENTS AND ADMISSION POLICIES

Vigorous selective processes begin to operate before the end of secondary school and become openly recognized and competitive by the beginning of college. Those who are to attend institutions of higher learning must be selected. Since this is a critical decision both from the standpoint of the individual and of society, every effort should be directed toward improving selection procedures.

Much has been written in the field of improving admission procedures. However, in this investigator's research most of the materials covered gave no indication of the research basis for making the statement. It was apparent that these writings have considerable influence on both secondary and higher levels of education. A brief summary of some of this literature will be included.

Rosenlof (81), Segal (89), Tyler (95), and Prator (76) all emphasize the responsibility that admissions officers have to secondary school relations and to society in general. In looking to an improvement in admissions procedure, there is involved an adequate and understanding appreciation of the philosophy of higher education, and the purpose and function of the institution that is respresented. There is involved a complete understanding and knowledge of the youth admitted to an institution to insure, as far as possible, their adjustment to all phases of college life. There must exist on the part of admissions officers a comprehensive understanding of the needs of society so that those with college training are able to meet the needs and demands of that society. They should be of such caliber as to qualify for positions of leadership in the activities of human affairs.

There are many different types of institutions of higher education and many different types of people needed in our society. White (103), Vaughan (97), and Nelson (67) point out that not every college should seek the same type of student; neither should all colleges use the same techniques in admitting students. Each policy-making body of an institution should consider all of the possible reasons which bring students to their school and attempt to clarify

their college objectives so that the college program may be adapted to the needs and interests of the students who are admitted. No single plan for admission can be adequate.

Fine (30) in summarizing findings from some 450 institutions of higher learning with respect to underlying policies that govern admissions practices used one word - "democratic". He then presented nine points: "1) The colleges and universities have a democratic philosophy on the question of who should go to college. 2) Emphasis is placed on the scholastically intelligent student although consideration is given to the non-scholastic type of individual who has other qualifications. 3) The public institutions are more liberal in their interpretation of the principles underlying admissions practices than are the private or church-dominated colleges. 4) More than half the colleges in the country stress high school records, character references, and personal interviews as bases for admission. 5) Many use 'ability to do college work' as their basic test. 6) Public colleges have to admit all in their state or region; city colleges, theoretically, all in their own community. 7) The colleges concede there is no infallible method of selecting the best students, and are constantly striving to develop and refine their admissions practices. 8) Religious institutions place great stress on the

character of the individual. They frequently emphasize 'developing Christian character' in the broader sense. 9) Admissions policies are geared to the size of the institution, and inadequate facilities mean that fewer students can be admitted."

At the outset of the founding of American colleges there were very rigid requirements established for gaining admission. A certain number of required units and courses were demanded. Fine (30) found that the same situation continues to exist in most cases. He found that the statement that colleges are more concerned with general high school achievement than with specific subjects does not hold up under careful analysis; most colleges still require the fifteen Carnegie units of high school work. Moreover, these fifteen units are expected to cover certain specified areas. While it is true that the colleges do not insist upon individual courses, they do stipulate the particular fields of study. For the most part, colleges require work in these five areas: mathematics, English, foreign languages, natural sciences, and social sciences. Beyond that, most institutions demand as a minimum these specific courses: four years of English, one year of algebra, one year of plane geometry, two years of a foreign language, one year of a science, and one year in the field of history, civics, or social studies. That provides for ten of the fifteen

required units. The other five come from the academic fields mentioned, although some institutions have liberalized their requirements to permit the substitution of one or two non-academic courses for the college preparatory subjects.

In contradiction to the above findings, the Eight-Year-Study of the Progressive Education Association as summarized by Aiken (3) demonstrated that students admitted to college from the experimental schools on the basis of the secondary school recommendation, and without regard to the pattern of subjects taken, achieve as high a level, and in some cases slightly higher, than their counterparts whose preparation was in the old program. It was further concluded that the assumption that preparation for the liberal arts college depended upon the study of certain prescribed subjects in the secondary school is no longer tenable. The conclusion must be drawn, therefore, that the assumption upon which school and college relations have been based in the past must be abandoned. To move ahead, schools must have encouragement from colleges. To give that encouragement colleges must modify present admissions policies. Another major implication of the results of the Eight-Year-Study was that secondary schools can be trusted with a greater measure of freedom than college requirements now permit.

There have been two good examples of the relaxing of rigid entrance requirements in the mid-west, The Michigan College-Secondary School Agreement and the Illinois Committee Report entitled, "New College Admissions Requirements Recommended". These two programs are viewed important enough to warrant the following quotation from the Illinois Report (48).

> Guiding Principles: As a basis for developing proposals for solving the problem, certain principles were agreed upon regarding the respective responsibilities of the secondary school and the college. These were:
> 1) The American public high school has the responsibility to develop and administer an educational program which will provide for the education of all youth, including both those who go on to college and those who do not.
> 2) With limited resources, the high school's first responsibility is to provide education of general value to all its students, rather than to provide for the specialized needs of part of the student body when the latter effort is taken at the expense of a good program of general education.
> 3) The colleges and universities bear the responsibility of continuing the general education of high school graduates and of providing for various specialized needs appropriate for post high school instruction.
> 4) Since the high school carries the responsibility for educating all youth, it, and not the college and university, has the responsibility of specifying the content of the high school curriculum. The colleges and universities have an interest in obtaining competent students from the high schools, and the high schools need to consider the development of competent students as one of their functions.
> 5) The high school has the responsibility of providing colleges and universities with information about the students and in doing so, enabling these institutions to select prospective students wisely.
>
> Recommendations: In the light of these principles, it is recommended that the colleges adopt admissions policies which do not specify the courses the students are to take in high school, but specify the kinds of competence to be required of entering students. There

has been extensive research on the kinds of competence which are good predictors of college success. The following five criteria can be used by a college or university to provide the best prediction of the probable success of the student in college work: 1) Score on a scholastic aptitude test; 2) Score on a test of critical reading; 3) Score on a test of writing skill; 4) Score on a simple mathematical test; 5) Evidence that the student has an intellectual interest and some effective study habits as shown by his having taken at least two years of work in one field in high school in which his grades were better than average.

It is recommended that the foregoing criteria be used for admission to general college work in place of any other set of entrance requirements. For specialized curriculums which begin in the freshman year in college like engineering, certain specified competencies on the part of high school graduates may be required, such as competence in mathematics for engineering. For such cases, the Committee recommends the adoption of the following paragraph.

Secondary schools are urged to provide means for high school students to acquire prior to graduation the competencies demanded for successful work in specialized programs in institutions of higher learning, such competencies to be determined on the basis of standardized tests rather than on the basis of passing specified courses.

The purpose of the last recommendation is to urge provision in high schools for specialized work really basic to college specialization. The committee recognizes that smaller high schools will not always be able to provide a sufficient variety of specialized courses to meet the needs for special programs of all its graduates. In such cases, the colleges are urged to make provisions for the basic specialized work with as little handicap to the student as possible.

Such a program as outlined above places a great responsibility on secondary schools and colleges to provide adequate and professionally competent personnel services.

Crawford (21), Cowley (20), Donovan (26), Peterson (74), and Rosenlof (81) emphasize this when implying that the process of admissions is not one of getting students and then forgetting them, but rather of counseling wisely with students seeking admission, to the end that they may be directed more intelligently toward their future success in the institution they seek to enter. The admissions responsibility is one of following through on the student to the end that we may contribute to his successes. While discussing the Michigan Secondary School-College Agreement plan, Carter (17) points out that the college agrees to disregard the pattern of high school work provided students are recommended as able students who are capable of doing work in a college or university. High schools should, of course, make courses available, such as mathematics, for those entering technical, industrial, or professional curricula. The high school also assumes responsibility for building a personal file for each student which includes test results, anecdotal records, personality inventories, and achievement samples that will be summarized for the college to which the student applies. There must also be a basic curriculum study and evaluation program. Former students must be followed up systematically and a continuous program of vocational and educational information and orientation must be evolved.

One of the more recent reviews of the literature on admissions criteria has been conducted by Cosand (19). He was most emphatic when he said, "If the colleges are to serve society as true educational leaders, and thus meet the demands society places upon them, we must be certain that there is a belief in flexibility, and a mature consideration of the individual differences of those students desiring admission." Further analysis of this review caused one to believe that if the admissions officer can adopt the viewpoint that the entrance requirements ordinarily are neither a line of demarcation nor an average of acceptance, but rather a point of view from which the admissions officer looks at any application, he may then be both objective and flexible in his judgments.

Segal (88), Fine (30), and Cosand (19) conclude that the main categories of admission methods are as follows: 1) Completion of a set pattern of required courses; 2) Required minimum academic achievement for a set pattern of courses; 3) Required minimum academic achievement in secondary-school work; 4) Required minimum academic achievement for the last two or three years of preparatory work; 5) Rank in high-school graduating class; 6) Entrance tests (aptitude and subject); 7) Principal, counselor, teacher recommendations; 8) Personal interview; and 9) Combinations of two or more of the above.

The implications are great when a considerable amount of faith is placed in recommendations. Cosand (19) points out that this is one of the top five methods used, and the one most recommended by principals themselves. In particular, it is used with respect to students who do not quite measure up academically, but who, in the opinion of the principal, are capable of doing college work.

To adequately recommend implies that the personnel services are adequate to furnish the college with positive suggestions as to how it can be of most help to the student in his adjustment to all phases of college life.

From the literature, one is forced to conclude that pre-admissions counseling is becoming an increasingly important part of the admissions office, and that the question to be answered with regard to each student is, "Is this applicant well advised to attempt the course for which he is applying in this college?" Cosand (19) reflects that this forces the college to adopt a student-centered admissions policy in which the student's interests are first served, then those of the college. To point this up, he draws further reference to the National Conference on Higher Education in 1948 when criteria were established which were deemed essential for an effective admissions program. Among these were: first, to pay greater attention to the personal

qualifications of the applicant; second, to try to make a decision as to whether or not it is advisable for the applicant to attempt the course for which he is applying at a particular college; third, to realize that pre-admissions counseling is becoming an increasingly important part of the admissions officer's responsibility.

The foregoing materials emphasize the fact that present admission procedures need constant evaluation and reassessment. In the past few years, many progressive steps have been taken to obtain more adequate criteria for selecting entering students. However, the great turnover and drop-out rate causes one to wonder if features aren't being overlooked which could be ascertained, and which, as a result, would be of immense help to the student.

Set course requirements, marks, class rank, standardized tests, ratings, and recommendations have been used in varying degrees and with varying success. It would appear that all of these features have contributions to make to the reasoning of the admissions officer, but information is lacking on specific preparations that are immediately applicable on the part of the student when he enters his first college class.

Much of the difficulty seems to stem from trying to place the blame on someone for lack of meeting certain

adequacies. It appears that in a program of individual admissions, this implies a better program of articulation and integration between school and college. Any improved integration implies great responsibilities on pupil personnel workers because there must be a greater exchange of information about the pupil between the different levels of education. It is going to mean more records, more reports, more complete application information.

Personnel workers must not view this as just busy work, but rather as a valuable contribution toward the adequate adjustment of the pupil concerned. Pupil personnel workers have emphasized the importance of the individual and the adaption of materials to his interests, abilities, and aptitudes. This automatically makes for great deviation in each individual application and the high school must accept its responsibility for relaying all pertinent information to the college. In turn, the college must expand and improve individual counseling facilities so that the full realization of this material will be applied. There must be an equal exchange of information. Schreiber (86), in an article for the Michigan Education Journal, requests that colleges consider sending high schools follow-up information such as disposition made of the application for admission, a notice of registration, academic progress reports, and notice of withdrawal or graduation.

In viewing admissions as the combined responsibility of both the secondary school and the college, it is implied that the college will keep the secondary school informed of its objectives and offerings. Prator (76) suggests that each college or university should encourage only those candidates for entrance who can profit most from the opportunities which that institution offers. The admission methods and requirements should be planned so that students are properly selected. Measures of the candidates' ability, achievement, literacy, and previous scholastic record are helpful in predicting college success. When such measures are combined with ratings or judgments of the candidate's personality, character, financial resources, health, interests, and purposefulness, a reasonably good basis of selection should be achieved. It is fundamentally important that the college or university have clearly defined purposes so that the admissions officer may know what preparation, abilities and characteristics, within reasonable limits, are necessary to do successful work in the institution which he represents.

II. LITERATURE CONCERNING THE FACTORS OF PREDICTION IN EDUCATION AND THE RELIABILITY OF INSTRUCTORS' GRADES

Most institutions of higher learning employ the use of various programs of testing as part of the criteria for

admission. Some institutions establish their own programs while others are members of the College Examination Board. The volume of literature on prediction is such that much time and space would be consumed in including a complete summary. However, such a summary has been compiled at periodic times (Posz (75), Johnson (50), Durflinger (28), Segal (88), Garrett (34), Kinney (52), Douglass (27), Borow (11)) so as to make such a procedure unnecessary.

SCHOLASTIC APTITUDE TESTS AS PREDICTORS OF COLLEGE SUCCESS

In admissions studies and other studies related to the prediction of college success, no test area has been as prolifically investigated as scholastic aptitude. Used in the present, more popular context of scholastic aptitude tests, present measuring instruments have been subjected to a considerable amount of investigation. Durflinger (28) summarized many studies of prediction from 1934 to 1943. In this study, reported in 1943, he found a median correlation of .52 which he considered to be higher than those reported prior to that time. He went on to say that an intelligence test, a good achievement test, and high school grade averages, together, usually bring the highest multiple correlations. Previous to Durflinger's summary, Douglass (27) in 1931, when referring to a study at the University of

Oregon found a wide range of correlations with a median correlation of .45. In the following year, Kinney (52) found a median correlation of .445 in his summary of the literature. One of the most extensive studies was contributed by Segal (88) in 1934. He included many of the same studies reviewed by Douglass and Kinney, but his study was more exhaustive. He found a median correlation coefficient of .44 for approximately one hundred studies. He also found median coefficients of .535 and .367, respectively, for individual tests of specific traits and achievements. In this same year, Wagner (99) found a range of .40 - .50 between certain scholastic aptitude tests and college performance.

In referring directly to studies of the American Council on Education Psychological Examination, Peiser (73) in 1937, reported a review on one hundred and twenty one studies relating intelligence to college success. He found correlations ranging from .11 to .77 with a strong central tendency towards a median of .435. In Froehlich's (33) study at the University of Wisconsin in 1941, a coefficient of .55 between the ACE and freshmen grade-point averages was reported. A Hunter College study in 1945 by Weintraub and Salley (101) found that of 1,064 freshmen records, twenty four percent of the students in the lower half on ACE scores were dropped for poor scholarship during a four year program

while only fourteen percent in the upper half were dropped. Borow (11) was careful to point out that no forecasting measure nor any combination of such devices has yet approached infallibility. He emphasized that surveys of numerous studies in which intelligence test scores were used have shown that the average intelligence test possesses a correlation of approximately .45 with grades in college. In 1948, Garrett (34) found general college aptitude tests correlating .41 with grade-point-averages.

Johnson (50), reporting in 1950, summarized by stating that his review revealed median correlation coefficients of approximately .44 - .45. When reporting on numerous summaries and studies Posz (75), in 1952 found correlation coefficients ranging from .21 to .67, with the median coefficient of correlation falling between .40 and .50. Posz, in 1952, assembled an extensive table for reporting the various relationships. This table (75:43) (refer to Table I), is being included to furnish the reader with a comprehensive picture of many of the studies.

The correlations reported in the various studies and summaries appear to be in agreement since the median correlation ranges from .40 - .50. All writers have warned against allowing one factor to be the sole determinant for college entrance. When used in conjunction with other measures, they

TABLE I

ZERO ORDER CORRELATION COEFFICIENTS SHOWING RELATIONSHIP BETWEEN ACADEMIC APTITUDE TESTS AND COLLEGE SUCCESS

Test	Investigator (s)	Zero order coefficient		
ACE	Douglass & Lovegren	.496		
ACE	May	.60		
ACE	Williamson & Freeman	.46		
ACE	Douglass	.45		
ACE (men)	Hartson	.53		
ACE (women)	Hartson	.50		
ACE	Butsch	.53		
ACE	DeBois	.44		
ACE	Votaw	.53		
ACE	Weber	.45		
ACE	Smith	.38		
ACE	Flemming	.50		
ACE	Nelson	.67		
ACE	Fritz	.53		
ACE	Stalnaker	.57		
ACE	Rhinehart	.46		
ACE	Root	.51		
ACE	Benton & Perry	.31		
ACE	Crane	.27	.29	.30
		.33	.35	.32
		.27	.30	.27
		.40	.43	.27
Alpha	De Camp	.41		
Alpha	Stone	.44		
Alpha	Stone	.50		
Alpha, Otis	Toll	.38	.33	.38
Minn. Coll. Apt. Test	Douglass & Lovegren	.41		
Minn. Coll. Apt. Test	Williamson	.48		
Minn. Coll. Apt. Test (men)	Williamson & Freeman	.40		
Minn. Coll. Apt. Test (women)	Williamson & Freeman	.50		
Ohio Univ. Psy. Ex. (men)	Williamson & Freeman	.53		
Ohio Univ. Psy. Ex. (women)	Williamson & Freeman	.54		
Ohio Univ. Psy. Ex.	Reed	.42		
Ohio. Univ. Psy. Ex.	Garrett (52 colleges)	.61		
Ohio. Univ. Psy. Ex.	Flemming	.46		
Otis Self-Admin.	Prescott & Garretson	.21		
Otis Self-Admin.	Odell	.58		
Otis Self-Admin.	Guiler	.48	.40	.49
O. C. A.	Guiler	.45	.44	.47
Terman	Guiler	.49	.48	.52

This table was taken in its entirety from Posz, A. Conrad, The Academic Backgrounds of Agricultural Extension Workers as Related to Selected Aspects of Work Adjustment, (Unpublished Ed.D. Thesis, Michigan State College, East Lansing, Michigan. 1952). p. 43.

can contribute considerably to the admission officer's insight into the capabilities of a candidate. When considering these scores the admission officer should keep in mind that several investigators (Leonard (55), Davis (24), Segal (88), Aiken (3), Bell (6)) have discovered that environmental factors have considerable influence in the scores obtained on tests. The social and economic forces contributing to the experience of the individual should not be lost in the milieu of scores, ranks, marks, ratings and recommendations.

High School Rank or Transcript as a Predictor of College Success. The high school rank or the transcript of the applicant is one of the most widely used selective devices employed by the admissions officer. Segal (88) reports that the median correlation found between average high school marks and general college scholarship is .55, which is slightly higher than the highest of the three median coefficients found by the use of single tests - .535, .44, and .367 for tests of individual traits, aptitudes, and achievements respectively. Just what marks from any one high school means is not known accurately since the correlation coefficients for marks from any high school or for entrants to any college very likely may be anywhere from .45 to .65. Froehlich (33) reports an r of .62 between grade-point-average and high school rank. Borow (10) found that rank stand-

ing in the graduating class has yielded about .55, a slightly higher correlation than individual tests. Garrett (34) concludes that high school average and high school rank yield the highest correlations when compared with grade-point-average in college; these are approximately .59 and .49, respectively.

Smith (89) cautions that correlations in the low .60's between previous high school record and scholastic success are gratifyingly useful, but low enough to remind us that in attempting to predict human behavior we are still dealing in probabilities rather than fixed laws. Fine (30) in his comprehensive study of admission procedures at more than four hundred colleges, reports that one of the most extensively used criteria is that of high school rank or average.

There appears to be considerable agreement that the previous record is of value in prediction and selection when used with other factors. This in spite of the variables such as high school size, course pattern, and variations in marking practices. Posz assembled a table (75:64) of studies correlating high school rank and college scholarship averages which is being included. (See Table II).

TABLE II

STUDIES CORRELATING HIGH SCHOOL SCHOLARSHIP AVERAGE WITH COLLEGE SCHOLARSHIP AVERAGE

Investigator (s)	Zero order coefficient
Eids & McCall	.65
Finch & Nemzek	.79
Garrett	.67
Read	.63
Williamson	.54
Douglass	.56
Williamson & Freeman	.53
Proctor	.52
Odell	.55
Bolenbaugh & Proctor	.49
Crawford & Burnham	.57
Prosser	.51
Whitney & Leuenberger	.50
Pierson & Nettels	.52
Jones	.60
Anderson & Spenser	.54
Byrns & Henmon	.74

This table was taken in its entirety from Posz, A. Conrad, the Academic Backgrounds of Agricultural Extension Workers as Related to Selected Aspects of Work Adjustment. (Unpublished Ed.D. Thesis, Michigan State College, East Lansing, Michigan. 1952). p. 64.

Achievement Tests as Predictors. It is generally agreed that achievement tests compare favorably with high school rank for predictive purposes. Cosand (19), Segal (88), Fine (30), Johnson (50), and Garrett (34) all report that these tests are important components of a comprehensive program of selection for college admission. Durflinger (28) found a median correlation coefficient of approximately .55 between content examinations and college grades. Garrett (34) found average correlations of .48 for general achievement tests and .40 for achievement tests in specific subjects. Recent studies conducted at the U.S. Coast Guard Academy by French, Tucker, Newman, and Bobbitt (32) indicate that prediction of academic success should be based on tests of mathematical ability, verbal ability, reading, and spatial ability in that order. Cosand (19) points out that the University of Chicago has been particularly active in devising an entrance program which combine tests with other criteria and have developed multiple correlations up to .80 in terms of college success. Johnson (50) in studying the predictive value of GED tests found that these achievement tests functioned more efficiently in predicting scholastic success of the veteran group studied than any of the other variables considered. This was particularly true with the Social Studies, Natural Sciences and Effectiveness of Expression tests.

When included with other predictive devices, achievement tests contribute considerably to the knowledge of an admissionee.

Combination of Factors for General Scholastic Prediction and the Selection of College Admissionees. Most investigators are in agreement that no single measure should be used in selecting college admissionees. Through the application of multiple-correlation techniques or regression line techniques, it is possible to determine combinations of factors that will prove most efficient and will be most fair to the applicants seeking admission to the institution concerned. Selective factors such as high school rank, subject pattern, test scores, rating scales, activity record, recommendations, etc. can be combined to furnish the admissions officer with a comprehensive analysis of the individual. Thresholds or cut-off scores can be established for various indices employed for selection. Often a deviation from threshold scores is allowed depending on the admissions philosophy of the institution concerned.

Cosand (19) in the latest review of literature on admissions criteria (1953) expresses the opinion of many when he states: "If the colleges are to serve society as true educational leaders, and thus meet the demands society places upon them, we must be certain that there is a belief

in flexibility, and a mature consideration of the individual differences of those students desiring admission." This implies that all the individual differences will be given due consideration. As early as 1924, Scates (85) found that a solid, unyielding line of demarcation for admissions was unjust to a sizable number of applicants. Aiken (3) in reporting the Eight-Year Study noted that many criteria should be used in selecting candidates. Nelson (67) summarized by acknowledging that no single plan for admission can be adequate. The tendency seems to be toward admitting students on the basis of a combination of items - the scholastic aptitude test, the achievement test, high school grades, the principal's recommendation, personal interviews, the financial and family background, soundness of vocational or educational choice, rating scales, etc. Durflinger (28) reports that multiple correlation coefficients are rarely higher than .80 regardless of the variables used with median multiple r's in between .60 and .70. This should remind all that continued research and refinement of the techniques used is a necessity.

Tyler (95) emphasizes the importance of complete application data when he notes that we need to know whether or not the student has the general intellectual, manual, and social abilities and skills generally prerequisite for

successful work in college. Hill (44) of the University of California lists ten factors taken into consideration for granting admission. Fine (30), Borow (11), Garrett (34), Eckelberry (29), and Hartung (40) all note the trends and the importance of multiple criteria when selecting college admissionees.

SUMMARY OF REVIEW OF LITERATURE

The review of pertinent literature appears to bear evidence that the many singular items considered in the selection of candidates have value, and that combined, their value becomes more pronounced. However, it is imperative that all concerned recognize that their efficiency, either singly or in combination, still falls short of what might be desired. Continued research is mandated if a program of admissions is to be progressive and justified in a modern program of personnel services.

CHAPTER III

REVIEW OF THE BASIC ADMISSIONS PROCEDURE AT MICHIGAN STATE COLLEGE

For clarity and understanding of how applicants gain admission to Michigan State College, the basic admissions procedure will be reviewed. There are several courses of action open to the applicant to enable admission.

The most popular source of information on admissions is the college catalog. The Michigan State College Bulletin (60) has this to say about admissions:

HIGH SCHOOL GRADUATES

How to Apply: If no work beyond high school has been taken, an application for admission may be obtained by writing to the address above (Registrar, Michigan State College, East Lansing, Michigan) or the high school principal or superintendent of the school from which the student was graduated. The application form carries complete instructions for filling out and processing. If enrolled in the senior year in high school, the application for admission should be made as soon as the first semester has been complted.

As soon, as the application is approved a notice will be sent which may be used to apply for housing accommodations.

Requirements for Admission:
I. For graduates from accredited high schools:

1. A satisfactory high school record. This means meeting the "College recommending grade" as designated by the high school.

2. A minimum of 15 units (A unit means a subject pursued through a school year with not less than four recitation periods each week.). Three or more units must be in English, and seven units (six units if four units of English are presented) chosen from three of the following groups: foreign languages, mathematics, sciences, and social studies. Three additional units either from the subjects just mentioned or from vocational studies, such as agriculture, home economics, commercial or industrial, are required. (Music may be presented in place of vocational studies for those who expect to specialize in music.) The other units presented may be from any other subjects accepted by the high school toward graduation.

3. Operating under "The Michigan Secondary School-College Agreement", Michigan State College agrees to disregard the pattern of subjects pursued in considering for admissions the graduates of selected accredited high schools, provided they are recommended by the school from among the more able students in graduating classes.

   Secondary schools are urged to make available such courses as provide a necessary preparation for entering technical, industrial or professional curricula. A lack of such preparatory courses will not prevent a student from gaining admission to Michigan State College but if preparatory courses are needed, the college will teach them under an accelerated program without college credit. Thus, in certain cases, it might take an extra term or two beyond the normal four years, or a summer school or two, during the normal four years, to complete the requirements for the Bachelor's degree.

4. Satisfactory recommendation from the high school principal or other proper administrative officer as to habits, emotional stability, general conduct, character, ability, and capacity, to indicate that the candidate will make a suitable college student.

II. For those not qualified for admission under the terms of I, and if suggested or authorized by the Registrar.

1. Application may be made to the Director of Counseling for an appointment with a counselor who will review with the applicant his entire educational background and arrange that he take such tests as may be needed to adequately assess his aptitudes for college or for other pursuits.

2. The counselor's report including such test results as are available and the applicant's previous records (scholastic and experience) will be used by the registrar in judging the candidate for admission. In some cases, a trial summer school admission may be recommended.

At Michigan State College, unless a student enrolls as No Preference or as Unclassified, the candidate has a dual enrollment. By this is meant the candidate enrolls in Basic College and in the school of his major field. There are certain prerequisits for majors; the applicant must meet these requirements as outlined in Section I - 3 of the foregoing quotation. Otherwise he is considered deficient in the area in question. If a student declares a major, he is assigned to an enrollment officer in this major field of study. If the student is enrolled as a No Preference student, he is assigned to an enrollment officer in the Basic College. In either case these enrollment officers are charged with the responsibility of assisting with the candidate's selection of a proper program of study. If a student

is enrolled as Unclassified, his enrollment officer is Dean Crowe under whose jurisdiction all Unclassified students are placed. The individual requirements of each school will not be included in this review, but the reader can ascertain these requirements in Section III of the Michigan State College Bulletin (60).

There are basic procedures which an application undergoes and they will be described briefly. Upon receipt of the application, the credentials are analyzed by an assistant in the admissions office to ascertain whether or not they meet the prescribed requirements. If these credentials meet the minimum requirements, the applicant is sent a notice of acceptance. This is true of Michigan applicants; outstate applications are referred to the out-of-state committee which passes final judgment. If the credentials do not meet the requirements for admission as outlined in Section I of the Requirements for Admission, quoted previously (p. 46), the application is then referred to the Registrar for further analyzation and action.

The Registrar may accept the applicant, he may recommend testing and counseling for the applicant, or he may refuse to admit the applicant. This is done with respect to the information offered by the candidate and his school

on the application blank.[1] If the Registrar ascertains the applicant to be in the borderline classification, he forwards the following letter to the applicant.

Dear _____:

We have studied your application for admission to Michigan State College very carefully and regret to inform you that we find your record does not fully meet our requirements for entrance.

Because you are not substantially below the requirements, however, and because of your interest in Michigan State College, we would like further evidence of your capacities before we make a final decision as to your admission at this time. Such evidence can be obtained by an appointment with one of our counselors and by a battery of tests.

If you also feel that we may not have the complete picture of your ability, you may write to Dr. Paul L. Dressel, Director of Counseling, Administration Building, Michigan State College, and ask for an appointment with him or with a member of his counseling staff.

After the counseling and testing, you will be in a better position to decide whether college should continue to be your objective. If it turns out that a college education no longer seems to be a suitable possibility, you will have been given suggestions as to the type of educational or vocational preparation suited to your talents and abilities.

If, on the other hand, the tests clearly show that we did not have a complete picture of your ability and that you should, therefore, be given an opportunity to try college work, we can then work out the most satisfactory arrangement for your being given that opportunity.

Whichever way, both of us will be satisfied that we have made every effort possible to work out plans that will be to your grestest advantage in making preparation for a productive and well adjusted life.

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[1]See Appendix A

If you write for an appointment with one of the counselors, indicate in your letter several days (Monday through Friday) within the next few weeks on which it would be possible for you to appear, and plan to be on campus for a full day. Although it will not be possible for us to tell you on the day that you take the tests whether or not you will be admitted to Michigan State College, we will mail you the information at the earliest possible date.

Let us know soon what your plans are.

Sincerely yours,

/s/
R. S. Linton
Registrar

People receiving the above letter are denied admission until they have adequately met the requirements of testing and counseling. The testing program administered to these applicants includes, in most cases, the American Council on Education Psychological Examination and a reading test. In addition, the majority of these people are given an English test. Other examinations vary with the particular applicant, his interests, needs and purported major area of study. Typical of other measures utilized was the Iowa High School Content Examination, either the Kuder Interest Inventory or the Strong Vocational Interest Blank, and some measure of Arithmetic Proficiency. Also, in some cases, it appeared advisable to administer a personality inventory.

After careful scrutiny of the application information and test results, and an individual interview with the applicant, the counselor reports his findings and recommendations

to the Registrar. Each applicant referred to testing and counseling is considered on the merits of his case; and after deliberation by the counselor, the admissions office and the board of admissions, the applicant is informed of the action taken.

The admissions office carefully and seriously studies all information given on the application blank. The information asked for on the blank is pertinent to the applicant's candidacy and should be completed in its entirety. This interview revealed that high school record and courses, high school rank, report of candidate's personal qualifications and the high school recommendation receive very close attention and are crucial factors. The rating scale of traits, the activity record, the information on change of schools, education of parents, the age factor, work experiences and the applicant's autobiography are all important supportive factors in the review of the application.

The admissions assistant was careful to call this investigator's attention to the "Note" on page eight of the application blank. "Note: Marked improvement during the junior and senior year may indicate that a pupil is ready to undertake college work even though the total average may not meet the standard requested for clear recommendation to college." It was pointed out that marked improvement was

often the deciding factor as to whether or not individual testing and counseling would be offered to the applicant.

One should also be cognizant of the fact that mature individuals having satisfactorily completed the Armed Forces Institute Tests of General Educational Development can obtain admission on this basis. This testing procedure can be substituted for the testing and counseling procedure as administered at Michigan State College. Likewise, the college will accept testing procedures as administered by the College Entrance Examination Board when an applicant lives at a distance which prohibits his coming to the college campus for the testing procedure.

This investigator learned from the registrar that if test scores result in a borderline status, a summer school trial may be offered to the applicant. At the conclusion of this trial, all materials are assembled (counselor reports, application blank materials, test scores, special reports from summer school trial and grades reported) and are carefully analyzed on an individual basis. Judgment is then passed as to fall term admission.

SUMMARY

The admissions procedure takes into consideration many factors. All of the information requested on the

application blank is utilized in determining the desirability of an applicant. Those considered borderline are given every opportunity to prove their capabilities and an individualized procedure is utilized in processing their credentials.

CHAPTER IV

THE DESCRIPTION OF THE SAMPLES; THE PROCEDURES USED COLLECTING, ORGANIZING AND TABULATING THE DATA; AND THE TECHNIQUES EMPLOYED IN ANALYZING THEM

When undertaking a problem in educational research one is immediately confronted with the task of what population to use. Few studies in educational research can be organized to utilize the entire population. The definition of a sample from which implications and inferences can be drawn for total population becomes a primary factor in any research project.

The initial step in this project was to carry out a pilot study on thirty-six borderline admissionees. This study was conducted in the early summer of 1952. The thirty-six cases utilized were the total number admitted on the basis of testing and counseling at that time. The admissions office maintains an IBM code on testing and counseling (T & C) admissionees. These cases were selected by the use of this IBM technique from the total of all students who had been admitted. The only step undertaken in this pilot study was an analysis of the application blank information and the testing and counseling results. The purpose of the pilot study was to establish a basis for further investigation, research and delineation of the study.

Statistics from the admissions office records revealed that 6,495 applications were received and acted upon for initial admission to Michigan State College for the fall quarter 1952. This total included both transfers and those presenting only high school credentials. A total of 5,036 applications were approved for admission. Of this total 3,989 actually enrolled fall quarter 1952. Included in this total of first time enrollees at MSC were 2,785 admitted on the basis of high school credentials; 955 were admitted as transfer students; and 228 were admitted on the basis of T & C.

THE SAMPLES

Three working samples were selected for study. They were: 1) testing and counseling, 2) regulars, and 3) refusals. Two of the samples considered were those individuals who were not only admitted but who had actually enrolled. The sample of borderline admissionees revealed that there was only one candidate that could be regarded as a transfer student. However, this student was credited with only seventeen credits, nine of which were credits from active military service. Because of this factor, an attempt was made in the other two samples, refusals and regular, to consider only those applicants presenting high school credits and those with credits granted by the college for military service. In most cases this did not exceed nine credits although six credits was

the usual number given by the college. In the follow-up phase of this investigation, the grade-point-average is limited to that which was obtained from courses taken at Michigan State College.

Borderline (T&C) Admissionees. Information from the admissions office revealed that a total of 246 applicants were granted admission on the basis of testing and counseling. Of this total 228 actually enrolled.

The Registrar's office maintains an IBM enrollment card for each enrollee. A code was designated for T & C admissionees. The enrollment cards were sorted and the T & C cards were selected and duplicated so that the investigator would have a copy.

Included in this sample were all 228 borderline admissionees who enrolled, thus the total T & C Population.

Regular Admissionees. A total of 3,761 actually enrolled as regular admissionees or as transfers for Fall 1952 as new enrollees. A comparable sample of 228 enrollees regularly admitted and not in transfer student status was desired. This factor was considered important because of the T & C enrollees only one person transferred credits.

Each new enrollee must submit to the orientation test procedure. These results are reported in a bound pamphlet entitled Test Scores by Students Entering Fall Term 1952 (61). Each page of this pamphlet was numbered and each case was given a number. Selection from these numbers was done by using Fisher's Random Number Tables (31). The two-hundred and twenty eight enrollees were selected in this way. Upon investigation it was found that fifty one of these cases were transfer students. Fisher's Tables and the above mentioned listing were again utilized and an additional fifty one cases (non-transfers) were selected. It was found after complete collection of the data that four of this final group of 228 regular admissionees utilized had some transfer credits. However, they were in Basic College as freshman, and since the Borderline group included one such case, these four cases remained in the sample.

Fisher's Random Number Tables were utilized in this selection to allow each individual an equal opportunity to enter the sample with the above mentioned restrictions. As in the first sample, there were a considerable number in this group who had been granted credits because of active military service. However, the same pertains to the grade-point-average in this sample as in the borderline group. Only M.S.C. credits were considered.

The following combinations of random numbers were used in selecting the cases from Fisher's Tables: 1) The first three numbers designated the page and the last two numbers the case; 2) The middle three numbers designated the page and the first and last number the case; 3) The last three numbers designated the page and the first two numbers the case; and 4) The last three numbers in reverse designated the page and the first two numbers in reverse the case.

Refusals. There were 1,459 application blanks for Fall 1952 admission that were turned down. A group of 228 refusals was desired as a sample of this population. The application blanks of the refusals are kept on file in manila storage folders. These folders were numbered and each application was numbered. Again Fisher's Random Number Tables (31) were utilized in the selection process to give each application a chance to enter into the sample.

The total samole. The total sample was thus divided into three groups of 228 cases each. One group, the borderline group, was established at the outset of the study. Similar sized groups representative of the applications received in the two categories, refusals and regular admissionees, were desired for comparative purposes.

Characteristics of the sample. It should be recognized that the total of 684 cases represents only slightly more than ten percent of the total number of applications received. The randomizations were subject to the inherent errors in sampling, thus testing for representativeness was a necessary step. Also there were five cases that had experienced enrollment in a college program. The sample involves only Michigan State College applicants.

THE PROCEDURES USED IN COLLECTING, ORGANIZING, AND TABULATING THE DATA

After the samples were established, it was necessary to set up work sheets for the collection of the data. Each case was assigned a number because it was imperative that the source of the data be anonymous. No part of the data should be associated with any particular individual or school system.

Permission was granted by the Registrar for the use of records needed in the gathering of the data as long as the information was handled in a confidential manner. The application blanks of the borderline group and the regular group are kept on file in the record vault of the Administration Building. The counselor reports and the personal qualifications section of the application blank for these

two groups are kept in the student's cumulative folder located in the files of the Counseling Center. Permission was granted by the Director and Assistant Director of the Counseling Center for access to the materials needed in the study. The record of credits taken, credits earned and the GPA of each student is kept on file in the Records Office. Each term this information is compiled cumulatively by the staff of this office. The record of credits and the GPA was taken from the cumulative books of the Record Office.

All information with respect to the refusals is kept on file in the record vault. These records were available for complete analysis.

With the exception of the credits and GPA of each student, it was necessary to go directly to the original record of the student for the gathering of information on the following items: age, sex, marital status, family occupational background, type of school, year of graduation, location of school with respect to state, rank in graduating class by quarter, curriculum specialization in high school, average of high school English marks, average of high school Math marks, type of high school recommendation and quality of the recommendation, entering school at Michigan State College, one or both parents working, father

and mother living or not, indication of broken home, handicapping illnesses, attitude towards study, whether there had been a change of secondary schools, use of counseling center services, probationary action, drop from M.S.C., M.S.C. relatives, estimate of financial status, best liked school subjects as stated by the applicant, extra curricular activities, work experience, father's education, mother's education, rating scale estimates, and the school pattern followed. The information concerning credits carried and earned and the GPA of each student at Michigan State College was gathered from the reports of the Records Office. The derived scores of each student on the orientation test battery (including the ACE, MSCRT, TEU and the APT) were obtained from the Board of Examiners pamphlet, "Test Scores by Students Entering Fall Term 1952 (61).

Data were tabulated on work sheets. Each tabulation was checked twice - once by a hand re-tabulation and the second time by the use of an adding machine. It was decided to carry out this operation manually in preference to using IBM techniques in the belief that the investigator would have a better cognizance of the problem at hand.

Rating codes used. It was necessary to classify certain data. The following classifications were used:

Family Occupation: The application blank asks for information with respect to the occupation of the parents. The occupations were classified in thirteen categories - professional, semi-professional, managerial, proprietary, skilled, semi-skilled, unskilled, clerical, service, sales, agricultural, retired and "?".

Family Income: The estimate of family income could not be determined exactly and thus was lacking in objectivity. This was a very crude estimate. The application does not ask for the family income. The estimate of income was derived from occupation, statement of plans for financing first year, number of siblings in family, autobiography and information given by the school authorities. The income estimate was placed in five categories - "?", 1-below $2500, 2-$2500 to $5000, 3-$5000 to $10,000, and 4-above $10,000.

Type of Secondary School: Secondary schools were classified in four ways - public high school, public technical school, parochial high school, private school.

High School Program: Programs were classified according to information given under Item 5 on page 7 of the application blank.[1] Classifications used were academic, commercial, technical, general, agricultural and combinations of these.

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[1]See Appendix A

High School Recommendation: The high school recommendation was considered in three classifications - yes, no, and reserved. A reserved classification was utilized when any conditions for admission were indicated.

Quality of the high school Recommendation: The college officials interviewed and the literature reviewed indicate that a considerable amount of faith was placed in the recommendation received from high school officials. The recommendations were classified in three groups.

1) denotes practically no information; sometimes just a signature and often not even that.

2) denotes a partially complete recommendation and partial completion of the high school official's portion of the application blank.

3) denotes a thorough completion of the high school official's portion of the application blank including positive suggestions from the school as to how the college can best assist the applicant in college.

Entering School: At Michigan State College each applicant enters Basic College and if he declares a major he has a dual enrollment with another school. If a student as a No Preference candidate he was considered only as an enrollee in Basic College. The following assignments are

used: Agriculture, Business and Public Service, Engineering, Home Economics, Science and Arts, Veterinary Medicine, Education, and No Preference.

It should be noted that in this study the students declaring Physical Education as a major were listed in the School of Education. Until a recent date (summer of 1953) this program was in the School of Business and Public Service.

Michigan State College Relatives: The information gathered in this category pertained to whether or not an applicant had: 1) immediate relatives, 2) distant relatives, 3) both immediate and distant relatives, or 4) no relatives who had attended Michigan State College.

Financial Situation: As in the case of estimate of income, this was a most rough estimate. Several factors contributed to this estimate - occupation, number of siblings, information from the autobiography, information from the question on financing for the first college year, information furnished by the high school authorities, and information from the question on work experience. The financial situation has been categorized as follows: Excellent, Good, Fair, Poor, Scholarship Grant, GI Bill, Self Maintenance.

Extra-Curricular Activities: The host of activities have been grouped into main classifications.

Leadership Activities - includes student government; offices in clubs, teams, classes; chairmanships; captaincy; directorships; and so on.

Athletics - includes all athletic activities of boys, both varsity and intramural.

Service - includes those activities where service was rendered to the school and community such as Hi-Y, Key Club, Junior Rotarian and Red Cross Club.

Music - the music activities treated under this heading were chorus, band, orchestra and soloist activity.

Class Clubs - listed in this category were such clubs as Future Farmers, Future Teachers, Foreign Language Club, Science Club, etc.

Dramatics - included here are class and school productions.

Journalism - includes those activities pertaining to the school paper and the year book.

GAA - includes the athletic activities of girls. Those participating as cheerleaders also were included here.

None - some applicants listed no extra-curricular activities.

Jobs: The analysis deals only with the fact as to whether or not an applicant had held any jobs so the designations were "yes" or "no".

Father's and Mother's Education: Data were assembled relative to the level of education which each parent had

reached. In most cases the application information only stated the level that the parent had reached so the categories indicated only that the parent attended at this level. No implication of graduation is indicated or intended. The classifications used were college, high school, grade school, business school, nurse training and not reported.

Rating Scale: Two different application blank forms were used by the applicants and these blanks employ different rating scales. Thus the frequency with which each category was indicated and the level of the ratings were assembled for each of the rating scales.

One rating scale listed these factors: Potential intellectual capacity, Actual intellectual performance, Seriousness of purpose, Independence of effort, Emotional stability, Social adjustment, Integrity, Maturity related to age, School citizenship, and Probable success in college. A five point scale was used: Poor (1) Below Average (2), Average (3), Above Average (4), Superior (5). The numbers indicate the method of tabulating the rating scale items.

The other rating scale listed these factors: Potential Intellectual capacity, Actual intellectual performance, Seriousness of purpose, Originality, Tractability, Social-mindedness, Independence of effort, Popularity. A six point

scale was used: very low (1), low (2), average (3), fairly high (4), high (5), very high (6). The numbers indicate the method of tabulating the rating scale items.

High School Estimate of College Success: Each application blank provides for the high school to make an estimate in their judgment, as to the success of the applicant in college. Six categories were utilized - poor, below average, average, above average, superior and not given.

School Pattern: The frequency with which subjects and subject areas appeared in the samples was tabulated.

Counselor Recommendation: The borderline admissionees were given a recommendation by the counselor at the time of testing and counseling proceedings. These were classified in three ways - 1) the counselor was ambivalent about the probable success of the applicant; 2) the counselor was moderately positive regarding the probable success of the applicant; 3) the counselor was enthusiastic about the applicant's potentialities.

TECHNIQUES OF ANALYSIS

The information reported in Chapter V was gathered from the application blank and the test report of each candidate. The between-group comparisons and explanations are in terms of percentages. Much of the material regarding

the handling of this data in the admissions office is done by personnel not trained in statistical techniques. The explanations will be more meaningful for the purposes of usability if the material for Chapter V is treated in this fashion.

The data in Chapter VI revolve around correlational studies using the Orientation Test battery results, the high school recommendations, the high school rank, and the MSC counselor recommendations and ascertaining the relationships between these factors and the grade-point-averages earned by the candidates in the T & C sample and the regular sample. The cumulative grade-point-averages for each of the three terms of the first academic year were utilized. One must keep in mind, that because of the attrition rate, the number involved in each of the correlational comparisons differs.

Calculation of zero order coefficients of correlation utilizes the formula:

$$r = \frac{\Sigma XY - \frac{\Sigma X \Sigma Y}{N}}{\sqrt{\left[\Sigma X^2 - \frac{(\Sigma X)^2}{N}\right]\left[\Sigma Y^2 - \frac{(\Sigma Y)^2}{N}\right]}}$$

r denotes the correlation
ΣXY the summation of the cross-products of the actual scores
ΣX the summation of test scores or recommendation scores
ΣY the summation of cumulative GPA's for the term involved
N the number of cases possessing both X and Y values

Snedecor (90) refers to Fisher in showing that the null hypothesis, ρ equals 0, may be tested by use of t where the sample value is $t = r\sqrt{(n-2)/1-r^2}$, d.f.= n-2. Snedecor has assembled a table of "Correlation Coefficients at the five percent and one percent Levels of Significance" (page 149) and the test of this null hypothesis can be made at sight in this table. In the following tables in Chapter VI one asterisk (*) has been utilized after the correlation to denote significance at the five percent level and two asterisks (**) after the correlation to denote significance at the one percent level. For any given size sample, one can compute the minimum value of r that will be significant at any given level. Guilford (38) states that if the exact number of degrees of freedom is not given in this table it is proper to interpolate between the two numbers given to arrive at the value of r necessary to be significant at the one and five percent levels of significance.

The standard error of the correlation was computed by the formula: $\sigma_r = \frac{1 - r^2}{\sqrt{N - 1}}$ where r refers to the correlation
N the number of cases
σ_r the standard error of the correlation

This term renders the limitations within which one might expect the correlation to actually fall. It is usually denoted thusly: $r \pm \sigma_r$.

SUMMARY

The entire T & C population was used as part of the sample in this study. Two similarly sized random samples, utilizing Fisher's random number technique, were selected from the admissionees admitted on the basis of high school credentials and the candidates that were refused admission. Data relevant to the applications, the Orientation Test scores and the cumulative grade-point-averages of the first academic year were gathered from the personnel files of the Michigan State College Registrar's Records, the files of the M.S.C. Counseling Center, and the M.S.C. Board of Examiners' pamphlet on Test Scores by Students Entering Fall Term 1952. These data were assembled on data work sheets. The data were statistically analyzed according to the methodology expounded by Guilford (38), Richardson (79), and Snedecor (90).

CHAPTER V

COMPARATIVE ANALYSIS OF THE APPLICATION DATA AND TEST SCORES

This chapter is chiefly concerned with information that was obtained directly from the application blank of each candidate for each of the three sample groups. In the processing of an application for admission, the admissions worker concerns himself with the over all picture or characteristics of the candidate. It becomes the responsibility of the applicant and the secondary school authorities to be as precise, factual and thorough as possible.

The data hereinafter presented are reported in terms of percentages. There were two hundred and twenty-eight (228) cases in each of the three samples. Because the population of men to women varies from sample to sample, some qualification was necessary in the interpretation of those factors which would be affected by the sex ratio. For the entire new admissions population for the Fall of 1952, there were 1,794 men and 1,358 women which was an approximate ratio of 1.3 to 1. The random sample in this study has 125 men and 103 women which was an approximate ratio of 1.2 to 1.

The separate analyses are concerned with group similarities and differences with respect to (1) personal and family information, (2) secondary school information, (3) subject pattern information, (4) activity information, and (5) for the T & C group and the Regular group - the Orientation Test Battery distribution as compared with the Michigan State College norms. Caution should be observed when drawing generalizations for individual cases from these group percentages.

It should be kept in mind that practices within individual secondary schools vary to a considerable degree. The admissions worker must recognize this when analyzing an individual application and making an evaluation of the information furnished from this source. All information was utilized when judgment was made as to clear admission, testing and counseling or refusal.

DESCRIPTION OF PERSONAL INFORMATION

Marital Status and Sex. There was a considerable difference between the groups in terms of sex. Table III shows that the ratio between men and women in the Regular sample was approximately 1.2 to 1 which corresponds closely with the entire entering population of 1.3 to 1. However, when referring to the T & C group, it was noted that the ratio of men

TABLE III

SUMMARY DATA ON PERSONAL INFORMATION REQUESTED OF THE APPLICANTS

*Figures Reported in Percentages

The Factor	Refusals	T & C	Regular
MARITAL STATUS			
Men Single	68.86	74.56	51.75
Men Married	0.88	6.14	3.07
Women Single	30.26	19.30	45.18
Women Married	0.00	0.00	0.00
FAMILY OCCUPATIONAL BACKGROUND			
Professional	15.79	25.44	16.23
Semi-Professional	7.89	8.77	7.46
Managerial	7.02	14.91	11.40
Business (own)	26.75	12.72	15.35
Skilled	19.74	18.42	17.11
Semi-Skilled	0.44	2.19	3.51
Unskilled	3.07	2.19	3.07
Clerical	1.32	2.19	3.07
Service	7.02	2.63	3.07
Sales	7.46	5.70	8.77
Agricultural	2.63	1.75	7.02
"Retired"	0.88	1.75	2.19
"?"	0.00	1.75	1.75
ESTIMATE OF INCOME			
4 -	20.61	35.53	17.11
3 -	36.40	49.12	42.54
2 -	42.11	12.72	38.16
1 -	0.88	0.44	0.44
? -	0.00	2.19	1.75
ESTIMATE OF FIRST YEAR FINANCING			
Excellent	17.98	19.74	9.65
Good	36.40	44.74	50.88
Fair	31.58	10.09	28.07
Poor	6.14	2.63	3.07
Scholarship Grant	0.44	1.32	1.32
GI Bill	7.46	20.61	6.14
Self Maintenance	0.00	0.88	0.88
PARENTS' EMPLOYMENT FACTOR			
One Parent Working	80.70	77.63	76.32
Both Parents Working	18.86	19.74	19.74
Neither Parent Working	0.44	2.63	3.95

TABLE III (continued)

SUMMARY DATA ON PERSONAL INFORMATION REQUESTED

OF THE APPLICANTS

*Figures Reported in Percentages

The Factor	Refusals	T & C	Regular
HOME STATUS			
Father Living	77.63	87.72	93.42
Mother Living	79.82	95.61	95.61
Foster Parents	6.14	8.33	6.14
Broken Home	6.58	5.26	4.39
HANDICAPPING ILLNESS (None)	96.05	95.18	97.81
CHANGE OF SCHOOLS			
Yes	18.86	28.07	12.72
No	81.14	71.93	87.28
CHANGE OF ATTITUDE TOWARD STUDY			
Same	67.11	49.56	31.14
Positive	26.75	47.81	68.86
Negative	6.14	1.75	0.00
Not Reported	0.00	0.88	0.00
M.S.C. RELATIVES			
Immediate	6.58	14.47	14.47
Distant	8.77	7.89	14.47
Both Immediate & Distant	1.32	3.95	4.82
None	83.33	73.68	66.23
FATHER'S EDUCATION			
College	33.33	37.72	31.14
High School	42.11	44.74	44.30
Grade School	24.12	14.04	18.42
Business School	0.44	0.44	0.88
Not Reported	0.00	3.07	5.26
MOTHER'S EDUCATION			
College	24.12	26.32	30.26
High School	60.53	57.89	49.56
Grade School	12.72	8.33	13.16
Business School	0.88	2.63	3.07
Nurse Training School	0.88	2.63	0.44
Not Reported	0.88	2.19	3.51
PREVIOUS EMPLOYMENT-APPLICANT			
Yes	67.11	69.30	69.30
No	32.89	30.70	30.70

to women became approximately 4 to 1. In the Refusal group the ratio was about 2.3 to 1. There were no married women in any of the three samples. The number of married men in the T & C sample was double that of the random sampling.

The number of women refused admission and admitted on the basis of examination was proportionately less than in the case of the randomized sample.

Family Occupational Background. Each of the three samples reveals a wide range when considering the classification of the source of family income. The T & C group reveals that better than twenty-five percent of the applicants come from professional homes. One might speculate that there was considerable pressure placed upon the applicant to pursue a college education since this is a prerequisite in the majority of professional occupations. The random regular sample and the refusals disclose approximately sixteen percent were from a professional home.

The other pronounced difference was that better than twenty five percent of the refusals come from homes where the family income was gained from a business. This was more than twice the number in the T & C sample and two-thirds again as many as in the regular sample.

Table III reveals that more than seventy five percent of the applicants in each sample came from homes where the occupational undertaking of the parent carries gradations of prestige in the eyes of our society. Also, these occupational classifications are generally considered the most rewarding financially. These areas - professional, semi-professional, managerial, sales, business and skilled - are frequently viewed as the hierarchy of broad occupational possibilities.

The percentage of applicants coming from home backgrounds where the occupation of the parent falls in the classification of semi-skilled, unskilled, clerical, service or agricultural approximates fifteen percent for the lower achievers - the refusals and the T & C admissionees - and approximates twenty five percent for the regular sample.

Estimate of Income. The application blank does not ask the applicant to list the family income. An attempt was made to estimate this from several factors of the application blank. This procedure was outlined in Chapter IV. Accepting this crude measure, Table III indicates that better than ninety five percent of the applicants came from homes where the income surpasses twenty five hundred dollars. This does not reveal how capably the applicant can finance his college education. However, when combined with the next

factor of Table III, "Estimate of First Year Financing", it was noted that about six percent of the applicants in the refusal sample stated their financial plans for their first year were poor or very insecure. The percentage for the other two groups was in the neighborhood of three percent with respect to inadequate finances. It should be noted that a greater number of veterans were in the T & C group as revealed by the twenty percent that will utilize the GI Bill for financial help.

Parent's Employment Factor. In recent years much speculation has arisen about the effect on the education of a child because both parents were working. One should keep in mind that the refusal sample and the T & C sample were thus classified partly because of low achievement in the secondary school. With this in mind, Table III reveals that the percentage in each of the samples was approximately the same, twenty percent, for those coming from homes where both parents were gainfully employed.

Home Status. Educators and social workers often indicate that parental influence is a contributing factor to adjustment to the school and community environment. The foregoing table reveals that the refusal group reports a

noticeably higher loss of one parent. This was also true to a lesser degree in the case of the T & Cs with respect to the loss of the father. The percentage was very similar in all three samples when reporting foster parents or the fact that the applicant comes from a broken home.

Handicapping Illness. On the application blank the candidate was asked if he had been hampered by any illness during the time of his previous education. There was no striking difference among the various samples. The applications revealed that less than five percent reported that this was the case.

Change of Schools. Because of differences in teaching methods, marking procedures, curricular offerings and community influences, often it has been deemed a handicap to a student to be shuttled from one school system to another. This appears particularly true when the change includes a change in residence in another state. The summarization in Table III notes that more than double the number of T & Cs and half again as many refusals as regulars had a change of secondary school. This does not say that this was the only factor to be considered, but it does point out that this characteristic was more peculiar to the

low achievers than to the people that were admitted on the basis of the usual criteria.

Change of Attitude Toward Study. Michigan State College asks the high school officials to report on the applicant's attitude towards scholastic work and application to academic subjects during the last year or two in high school or since leaving high school. The application blank points this up on page 8[1] with the following note: "Marked improvement during the junior and senior years and sometimes a great enough improvement in the senior year may indicate that a pupil is ready to undertake college work even though the total average may not meet the standard required for clear recommendation to college." The data reveals considerable differences among the samples. More than sixty eight percent of the regular admissionees were reported to have an increasingly positive attitude toward their studies. This was in contrast to approximately forty eight percent for the borderline admissionees and twenty seven percent for the refusals.

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[1]See Appendix A

Conferences with the admissions office personnel revealed that this is a very influential factor in the analysis of the qualifications of a candidate. This would indicate that secondary school personnel should be thoughtful, critical and thorough when reporting on this factor.

Michigan State College Relatives. Most admissions officers find it necessary and advantageous to take due cognizance of whether or not an applicant is related to alumni. Generally speaking, this situation must be handled carefully and if the application is questionable, the applicant should be offered the opportunity to undertake individual testing and counseling to verify his capabilities regardless of the high school record.

The data reveal that identically the same percentage of regular admissionees and T & C admissionees had immediate MSC relatives. The refusals had the greatest percentage with no MSC relatives. Approximately thirty five percent of the regulars had MSC relatives in contrast to about twenty five percent for the T & Cs and fifteen percent for the refusals.

Father's and Mother's Education. This factor gains attention from the admissions officer in that he recognizes that this socio-economic factor is influential in who applies for college. As stated in Chapter IV the classifications

reported do not imply that the parents were necessarily graduates at the particular levels indicated, but they only indicate that the parent has had educational experiences at this level.

In each of the three samples, those parents having had high school experiences or beyond approximates eighty five percent. It would appear that this factor was influential in causing an individual to apply for college. One would have to collect information on those not applying to obtain an adequate picture as to the influence of this factor when considering the entire population.

Previous Employment by the Applicant. It is felt by some that employment outside of school is detrimental to scholastic attainment; the vocationalist will say that this experience supplements the educational experience and makes scholastic attainment more purposive. It was not intended that this argument will be satisfied by this data. The facts reveal that approximately the same percentage in each sampling have had work experience outside of school. No attempt was made to evaluate this experience or to estimate the amount of time devoted to these undertakings. One can readily see that the extensiveness of this outside employment would inform us as to how much time was left for studies. Yet, at

the same time, it would still not reveal the purposiveness, initiative or motivation that the applicant had for academic work.

Summary. It was easily ascertainable that to judge the capabilities or purposiveness on the basis of any single factor about one's personal background would be unsound. It was only when all of these factors are considered and weighed in light of all other information that they become significant.

DESCRIPTION OF SECONDARY SCHOOL DATA

The secondary school is requested to supply information relative to an applicants scholastic attainments, his extra-curricular activities and to render an appropriate recommendation in light of all available information. As reported in Chapter II previous investigations have pointed out that previous high school attainment is the best predictor of college success yet revealed. It was also pointed out in the review of literature that secondary school people believe and have reported that one area where they feel qualified to render utmost assistance to the college personnel worker, including the admissions officer, is that factor of recommendation.

The Michigan State College application blank[1] provides adequate opportunity for the secondary school to be of utmost service to the applicant and to the college.

Type of Secondary School. The application requests that the secondary school report its type. The majority of Michigan State College applicants come from public schools. Approximately nine percent of the regular admissionees as revealed by Table IV, obtained their secondary school experience in parochial and private schools. The percentages were somewhat higher for the other two samples - approximately twelve percent for the T & Cs and seventeen percent for the refusals. This material should be qualified because some of these applicants had attended both public and private schools. This data basically refers to the type of secondary school from which the applicant graduated. The analysis of the data revealed that sometimes an applicant would be a low achiever in the original situation and he would transfer to the other type in an attempt to bolster his record and to enhance possibilities for college admission.

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[1]See Appendix A

TABLE IV

SUMMARY DATA ON SECONDARY SCHOOL INFORMATION

*Figures Reported in Percentages

The Factor	Refusals	T & C	Regular
TYPE OF SECONDARY SCHOOL			
Public High School	81.14	85.96	90.79
Public Technical School	1.32	2.19	0.00
Parochial School	7.46	5.26	7.46
Private School	10.09	6.58	1.75
YEAR OF HIGH SCHOOL GRADUATION			
1952	81.58	67.98	80.26
1951	7.56	6.14	9.21
1950	3.95	3.95	3.07
1949	0.44	1.75	0.44
1948	1.75	5.70	3.51
1947	2.19	3.51	1.32
1946 and before	0.44	3.51	2.19
Non-Graduate	2.19	7.02	0.00
?	0.00	0.44	0.00
STATE LOCATION OF HIGH SCHOOL			
Michigan	64.91	90.35	78.07
Out-of-state	35.09	9.65	21.93
HIGH SCHOOL PROGRAM			
Academic	66.23	72.37	82.89
Commercial	3.51	1.32	3.51
Technical	3.07	3.07	2.19
General	19.74	13.60	5.26
Agriculture	1.75	0.00	1.32
G.E.D. Tests of USAFI	1.75	5.26	0.00
Combination of Academic and others	3.95	3.07	4.82
?	0.00	1.32	0.00
QUARTER STANDING IN CLASS			
Highest	1.75	2.19	39.04
Second	13.18	16.67	34.65
Third	38.16	28.07	19.74
Lowest	42.98	42.54	4.39
Not Given	3.95	10.53	2.19

Year of H.S. Graduation. The majority of the applicants in these samples were recent high school graduates. Table IV denotes that about eighty nine percent of the regular and refusal samples graduated in 1952 and 1951. This factor was somewhat lower for the T & C group with the percentage being about seventy three percent for these two years. The admissions office at Michigan State College feels that age and time elapsed since graduation is influential particularly in the case of a borderline application. Johnson's (50) investigation of veterans at the University of Minnesota does not verify this. Under these circumstances, individual testing and counseling will be offered and that undoubtedly accounts for the increased number in this sample which have had more distant graduating dates.

Location of H.S. by State. Since Michigan State College is a publicly supported college, it would naturally be expected that the majority of the applicants would be from this state. The sample of regular admissionees revealed that about four-fifths of the candidates were from the state of Michigan. Admission office figures reveal that about one student in five for the entire population was from out-of-state. In this investigation thirty five percent of the refusals were from out-of-state and only ten percent of

the T & C sample were non-residents of Michigan. The MSC admissions office does not require higher standards from out-of-state applications. However, in 1952, all out-of-state applications were acted upon by an "out-of-state committee" after analysis by the admissions clerk. If the out-of-state applicant ranked in the fourth quarter of his graduating class, it was almost automatic to send him a declination of admission unless something was very unusual about the application. This undoubtedly accounts for only about ten percent of the T & C admissionees coming from out-of-state.

High School Program. The report of Aiken (3) on the Eight-Year-Study revealed that regardless of high school program, the applicants from the experimental schools did as well in college as those whose secondary school experiences were gained from the usual academic curricula.

The secondary school is asked to indicate which type of program the applicant has followed. Table IV indicates that the number of applicants pursuing the academic curricula exceeds sixty five percent in each sample. It was highest (about 87 percent) for the regular admissionees when considering the straight academic and combinations of academic and others. This was in contrast to approximately seventy five and seventy percent respectively for the T & Cs and the refusals.

The entrance requirements for Michigan State College are such that an applicant is obligated to present at least ten academic units to gain admission unless he is applying under the principles of the Michigan College-Secondary School Agreement Plan.[1] This requirement of academic units is still characteristic of the majority of American colleges and universities. This factor then clarifies the reason for the frequency of this type of program, and also accounts for an increase in the refusal sample of those with non-academic backgrounds.

Quarter Standing in Class. In the review of the literature, it was pointed out by Fine (30), Froehlich (33), Borow (10) and many others that high school rank was one of the most commonly used criteria for selection of candidates for college admission. Table II in Chapter II (page 41) summarizes many studies with respect to this factor.

The differences among these samples was in sharp contrast. One of the stipulations for recommending testing and counseling at the outset was low secondary school achievement or reserved recommendation by the secondary school officials. The findings are then what one might expect. Over

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[1]See Appendix A, Page 9, Item 1-3.

seventy percent of the regular admissionees ranked in the first and second quarters of their graduating classes. The exact reverse was true with the T & C group with over seventy percent ranking in the third and fourth quarters. The refusal group was more pronounced than the regular sample when over eighty percent ranked in the third and fourth quarters. The determining factor as to the offering of individual testing and counseling to these third and fourth quarter applicants, in the majority of cases, was the recommendation of the school.

High School Recommendation. In Chapter II, the review of the literature, several investigators reported that the area of recommendations is one in which the high school officials feel most confident and this is particularly true when referring to the borderline case. The Michigan State College application blank[1] offers the school official an opportunity to recommend in three main categories - a clear or yes recommendation, a reserved recommendation outlining the conditions, or a negative recommendation. The applications of each of the candidates was examined for the type of recommendation. Table V reveals that about ninety percent of the regular admissionees received unqualified recommendations and only about two percent received a negative recommendation. About one-fifth of the T & C group received a

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[1]See Appendix A, Page 8

TABLE V

SUMMARY OF DATA WITH RESPECT TO HIGH SCHOOL RECOMMENDATIONS AND ESTIMATES OF COLLEGE SUCCESS

*Figures Reported in Percentages

The Factor	Refusals	T & C	Regular
HIGH SCHOOL RECOMMENDATION			
Yes	18.86	9.21	89.91
No	33.33	19.30	2.19
Reserved	47.81	71.49	7.89
QUALITY OF H.S. RECOMMENDATION			
3 -	27.19	24.55	47.81
2 -	41.67	48.25	30.25
1 -	31.14	27.19	21.93
H.S. ESTIMATE OF COLLEGE SUCCESS			
Superior	0.88	0.44	7.89
Above Average	2.63	5.70	29.39
Average	42.98	53.07	53.07
Below Average	24.12	26.75	3.07
Poor	20.18	3.07	1.32
Not Given	9.21	10.96	5.26

negative recommendation. This was true in about one-third of the refusals. About seventy percent of the borderline sample received qualified recommendations as did approximately forty two percent of the refusals.

The admissions office reports that practically unquestionable faith is placed in the high school's recommendation of a candidate. The reserved recommendation may outline many courses of action on the part of the college officials. If testing and counseling are suggested, nearly always it is offered. In the refusal sample testing and counseling was offered to seventy eight candidates (34 percent) with only twenty nine of these candidates, or approximately thirteen percent of the total sample, actually taking advantage of this opportunity to be admitted.

Often the school official will reserve a recommendation by implying that the judgment of the college officials will be relied upon in the evaluation of the application blank.

Quality of High School Recommendations. Since the college places such great faith in the recommendation of the secondary school officials, the recommendations were rated as to quality.

The recommendations were rated by this investigator in three classifications. A rating of "3" was given the recommendation if it was complete in every detail and offered positive suggestions as to how the college could best assist the student during his college career. If this criteria was partially met, the recommendation was given a "2" rating. A "1" rating was given to the applications which were devoid of the information requested. Pages 5, 6, 7, and 8 of the Michigan State College application blank[1] are the secondary schools' portion of the blank.

Adequate secondary school-college relations indicate that there is an exchange of information that will be of help to both institutions. This is not saying that colleges now do an adequate job of informing the secondary school about their former graduates. However, it was immediately apparent that many recommendations are handled in a careless and incomplete manner.

This factor was particularly true when it was the most harmful. Often a borderline case was considered on the strength and completeness of the recommendation. In these samples an overwhelming number of recommendations had to be classified as partially complete or incomplete. Comparison

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[1]See Appendix A

of facts in Table V indicates that for the refusal sample and the borderline sample about three applications in four must be given such a rating. If the applicant has a poor secondary school record, but the school official feels that he was a good college risk, the college places more emphasis on the school official's opinion than on the school record. However, the college can render much greater assistance to the candidate if the school will critically analyze the personnel record and report assets and liabilities of the applicant to the college. This allows the personnel function of the college to take up where the secondary school left off.

The secondary schools do a much better job of recommending the people who fall in the regular sample. Almost fifty percent of these applications could be said to have a complete recommendation. These people also have plenty of other supportive evidence to warrant their admission. It is desirable that the secondary school do a complete job when recommending, but it is not of as critical importance as with the borderline case.

On the basis of this investigation it would appear that the admissions office was placing unfaltering faith in a factor in which the obligation has not been fully met.

High School Estimate of College Success. In the process of recommending a student the high school officials are asked to make an estimate of the college success of the candi-

date. The foregoing table (V) points up that the identical percentage for the regular sample and the testing and counseling sample exists at the average estimate (about fifty-three percent). However, the trend was reversed in that the high school officials estimate only about five percent of the regulars below average and poor as compared with about the same percentage of borderline cases at the above average and superior estimates. Approximately forty five percent of the refusals are estimated at below average or poor achievers by the secondary school officials.

Action of Personnel Groups. It was noted in the borderline group that thirty one candidates had been placed on academic probation once during the first year by the Dean's Office of the Basic College. There were thirty three candidates that had been placed on probation two or more times during this same period. In this sample, twenty four admissionees were withdrawn from college by the Dean's Office for scholastic failure.

In the regular sample, twenty two admissionees were placed on probation at least once during the freshman year. Twenty five of the regular sample has received probationary action two or more times during the same period of time. In this sample, fifteen admissionees were withdrawn from college by the Dean's Office of the Basic College during their fresh-

man year because of failure to accomplish a satisfactory level of attainment.

Another personnel function on the Michigan State College campus that contributes considerably to the adjustment of the student is the Counseling Center. Tabulation of the Counseling Center contacts revealed that of the 228 in each sample, 49.56 percent of the borderline sample, and 50.88 percent of the regular sample had received counseling service. The Counseling Center does a considerable amount of work with the changing of "majors". These contacts listed here exclude that type of contact.

On the basis of these tabulations it can be noted that a slightly higher number of admissionees from the T & C sample received probationary and/or withdrawal action from the Office of the Dean of the Basic College. The similarity of numbers exhibiting Counseling Center contacts for reasons other than "change of major" were almost exactly the same - approximately fifty percent in each case.

Summary. The information supplied by the secondary school is of critical importance to the admissions officer. The comprehensiveness with which high school officials attend to this responsibility leaves much to be desired. If the admissions officer is to continue to respect the judgment

expressed by the secondary school official, these officials must face up to their obligation as personnel workers. The recommendation becomes a critical factor particularly with reference to the low achiever in high school. If this caliber of student is to receive due consideration, all the supportive evidence possible should be furnished the college.

In these samples the vast majority of the applicants were recent high school graduates, had academic preparation, had attended public schools and were residents of the State of Michigan. About fifty percent of each sample had utilized the Counseling service and a slightly higher percentage of T & C admissions were subject to probationary action.

DESCRIPTION OF COURSE PATTERNS, USE OF RATING SCALES AND ACTIVITIES

Michigan State College is no exception to the rule of American colleges and universities in being concerned with the type of preparation a prospective student possesses. It has been a commonly accepted fact, and rightfully so, that certain major areas of study require a functional knowledge of basic skills. Engineering, for example, involves a considerable amount of mathematics and to be a success the student must have a facility in this area.

The dispute arises not in the requirement but in where it should be met - at the secondary school level or in the college. The Illinois Plan (48) and the Michigan Secondary School-College Agreement[1] emphasize that many small schools are not prepared to offer all the required prerequisites. Therefore, under the stipulations of their plans, the colleges in these states will admit students regardless of the course pattern provided they are recommended by the secondary school officials as being among the more able in their graduating class. This further magnifies the extreme importance of comprehensive personnel techniques on the part of both the school and the college.

Generally speaking, at Michigan State College, there is a minimum requirement of ten academic units[2] with special requirements for the various curricula offered by the respective schools.

Frequency of Study Areas. There appears to be no consistency as to any particular grouping of courses. Individual differences are respected and practically no two transcripts offer the same commonality in course presentation.

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[1]See Appendix A, Page 9.

[2]Loc. cit.

generally speaking, at Michigan State College, as a minimum requirement, it can be safely assumed that students with special remarks for the various curricula differ by the respective books.

Framework of Study Areas. There appears to be no consistency as to any particular grouping of courses. Individual differences are respected and practically no two students offer the same commonality in course presentation.

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[1] See Appendix A, Page 9.

[2] Loc. cit.

This phase of the analysis is concerned with the group differences that might be ascertained when compiling the frequency with which broad course areas are reported by the high schools.

A perusal of the percentages reported in Table VI points up not the vast differences in the various subject areas but the surprisingly similar frequency with which the samples are in harmony.

More than ninety six percent in each sample meet the English requirement of at least three units. The refusal and T & C samples are even more similar to the randomized sample of regular admissionees when one notes that the five applicants in each of these two samples not included in the percentages have satisfied the requirement by G.E.D. tests or by foreign transcript. The other two more pronounced differences in the academic area are in the mathematics and language subject areas. Here, the regular admissionee group presents a higher frequency of several courses in the mathematics field and about three-fourths of these candidates report credits in some foreign language.

The more extensive differences in the so-called non-academics exist in the area of Industrial Arts where about ten percent more T & C people present credits than in the other two samples. Also, a noticeably higher percentage of

TABLE VI

COMPARISON OF THE FREQUENCY OF VARIOUS STUDY AREAS IN THE SUBJECT PATTERNS OF THE APPLICANTS

*Figures Reported in Percentages

The Factor	Refusals	T & C	Regulars
ENGLISH CREDITS			
4½	0.44	1.75	0.00
4	68.86	65.79	64.47
3½	9.65	12.28	9.65
3	17.98	14.47	25.00
2½	0.00	1.32	0.44
2	0.44	0.88	0.44
1½	0.44	0.88	0.00
1	0.00	0.44	0.00
Journalism	6.58	6.58	6.58
SOCIAL STUDIES - No. of courses			
8	0.44	0.44	0.00
7	2.19	1.32	0.00
6	14.04	10.53	7.02
5	20.18	29.39	29.82
4	39.04	36.84	39.47
3	19.30	12.28	19.30
2	3.95	4.82	4.39
1	0.88	2.19	0.00
SCIENCE - No. of courses			
4	7.89	7.02	8.77
3	21.93	23.68	32.46
2	39.91	41.23	35.96
1	24.12	20.18	18.42
None	3.95	5.70	4.39
MATHEMATICS - No. of courses			
6	00.44	0.88	0.00
5	6.58	9.63	18.42
4	5.26	15.79	11.40
3	28.51	24.12	19.30
2	40.79	35.09	40.35
1	14.47	10.96	9.21
None	1.75	1.32	1.32
FOREIGN LANGUAGE			
Having credits	66.23	60.09	74.12
No credits	33.77	39.91	25.88

TABLE VI (continued)

COMPARISON OF THE FREQUENCY OF VARIOUS STUDY AREAS IN THE SUBJECT PATTERNS OF THE APPLICANTS

The Factor	Refusals	T & C	Regulars
INDUSTRIAL ARTS			
Having credits	35.09	44.30	35.53
AGRICULTURE			
Having credits	6.14	3.07	7.02
HOME ECONOMICS			
Having credits	21.05	14.04	21.05
COMMERCIAL			
Having credits	64.04	68.86	73.68
SPEECH			
Having credits	25.00	26.75	25.00
DRAMATICS			
Having credits	3.07	3.51	5.26
MISCELLANEOUS COURSES			
Having credits	71.93	59.21	47.81
TOTAL UNITS			
20 and up	1.32	1.75	7.46
19½	1.32	2.19	4.39
19	4.39	3.51	3.51
18½	3.95	3.95	9.21
18	3.95	6.58	8.77
17½	7.89	7.46	10.96
17	16.23	11.84	21.05
16½	13.16	15.79	11.84
16	21.93	27.63	16.23
15½	9.65	7.02	0.88
15	7.02	6.58	5.26
14	-----	-----	0.44
G.E.D.	2.19	3.95	-----
Non-Graduates	1.75	0.88	-----
Foreign School Grad.	-----	0.88	-----

**Note: In the percentages reported for the Refusals and the T&Cs for English Credits, Social Studies, Science and Mathematics, the percentage totals in each case lack 2.19 percent of totalling 100 percent. In each case five applications were incomplete in the listing of courses. The refusals in this case listed only G.E.D. Test scores. The T & Cs included three applications that listed only G.E.D. Test scores, and two applications from foreign schools - one in England and one

the refusal sample present miscellaneous credits with the regular sample reporting the lesser frequency.

When inspecting Table VI in relation to the total number of credits that the various groups report, it is ascertainable that the regular sampling in general reports a higher total of credits than do the other two samples. The college requires a minimum of fifteen credits and this requirement is met by practically the whole of the three groups.

These grouped percentages can prove very misleading when applied to individual cases, and they serve to accentuate the fact that admission requirements are not absolutes in themselves but only guideposts to help the admissions officer to evaluate the over all credentials of the applicant. These percentages also point up that as groups there are not vast differences in the subject areas attempted, but the differences exist with respect to the level of competency in terms of grades.

Responses for Best Liked Subject. A perusal of Table VI will emphasize the similarity of the respective samples as groups rather than the dissimilarity. Each applicant is asked to report the subject areas in which he has the most interest. The academic courses are reported as best liked by all three groups. Whether or not this is a halo-effect is

difficult to ascertain. It is possible that the candidates would feel reporting of academic interest would be a greater enhancement to gaining admission. As Table VII notes, applicants frequently listed more than one subject matter interest. Again, it should be stated that caution should be observed in interpreting individual cases.

TABLE VII

FREQUENCY OF RESPONSE FOR BEST LIKED SUBJECT

*Figures Reported in Percentages

The Factor	Refusals	T & C	Regular
ENGLISH	50.00	43.86	47.37
SOCIAL STUDIES	47.81	49.12	49.56
MATHEMATICS	31.58	34.65	39.47
SCIENCE	42.54	20.79	48.68
FOREIGN LANGUAGE	5.70	7.46	10.96
AGRICULTURE	2.19	1.32	3.95
INDUSTRIAL ARTS	11.40	12.28	10.53
COMMERCIAL	14.04	11.84	12.72
HOME ECONOMICS	4.82	2.63	5.70
MUSIC	4.39	3.51	7.02
ART	3.98	5.26	4.39

**Note: The applicant in many cases listed more than one subject as the best liked. All indications of best liked subject were included in the tabulation.

Rating Scales. No table presentation of the frequency of the various aspects of the rating scales utilized will be presented. Two types of rating scales were utilized because of a change of the application blank. Some applicants filed

one form while others utilized the older form. Appendix A illustrates the newer form of application blank with the rating scale found on page 5. Appendix B illustrates the older form of application blank which was employed by Michigan State College. The rating scale will be found on page 4.

The admissions office uses the rating scale as supportive evidence and as a check on other information that has been presented on the application blank. The tabulation of the frequencies on the rating scales revealed the "halo effect" which is often characteristic of rating forms. It may be that there weren't as many differences as one would think, or it might also be the case that inadequate personnel records leave the recommending officer in doubt as to the most logical course of action. This latter opinion was only speculation, but often has proved the case when a person hesitates to commit himself.

Distribution of Extra-Curricular Activities. In recent years there has been an increasing emphasis on the importance of activities, in both secondary school and college, outside the academic and non-academic course areas. Most educators accept these activities as having values that cannot be obtained in the classroom. It is also common knowledge among educators at the various levels that activities,

frequently in the minds of the students, over-shadow in importance the gaining of knowledge through his course work. It was not intended that the values of the various courses of action were going to be solved, but rather, what were the trends within the samples in the various activity areas.

If the percentages of Athletics and Girls' Athletic Association in Table VIII are combined, the percentage differences among the three samples were not too profound. This combination was necessary to get the true picture because the number of women in the regular sample far exceeds that in the other two samples. This same factor may account for the higher frequency of participation of the regular sample in leadership activities, service, music, dramatics, class clubs, and journalism.

TABLE VIII

FREQUENCY AND DISTRIBUTION OF EXTRA-CURRICULAR ACTIVITIES FOR THE THREE SAMPLE GROUPS

*Figures Reported in Percentages

The Factor	Refusals	T & C	Regular
LEADERSHIP ACTIVITIES	12.28	11.40	19.74
ATHLETICS	52.19	61.84	40.35
SERVICE	19.74	14.91	32.46
MUSIC	21.93	17.11	30.26
CLASS CLUBS	11.40	14.04	17.98
DRAMATICS	14.04	12.28	21.93
JOURNALISM-PRESS	9.65	9.65	17.11
GIRLS'ATHLETIC ASSOCIATION	19.74	9.21	31.93
NONE	9.65	10.96	4.82

Possibly the one aspect of this reference to extra-curricular activities that was most revealing was that only about five percent of the regular sample did not participate in at least one activity, while this was true in about ten percent of each of the other samples. In this table, the percentages are misleading if applied to individual cases because in the tallying process each time an activity area was reported, it was listed. In many cases one person listed several activities, while another person did not list any activities. However, as a group, the regular sample has greater participation in the activities other than athletic.

DESCRIPTION OF THE COMPARISON OF ORIENTATION TEST RESULTS

This section pertains to a comparison of the frequency of the derived scores on the orientation test battery for the MSC Norms with those derived score percentages obtained by the borderline sample and the random regular sample. The refusal sample did not enter into the testing situation.

Table IX indicates the approximate percentage of candidates that can be expected to obtain scores according to the MSC Norms. The Board of Examiners reported that the mean derived score for each of the orientation tests was 5.5 with a standard deviation of 1.67. This table also reports the percentages of each of the two sample groups that obtained the respective derived scores on the tests of this battery.

TABLE IX

SUMMARY PERCENTAGEWISE OF APPLICANTS OF THE T & C SAMPLE AND THE REGULAR SAMPLE WITH RESPECT TO ORIENTATION TEST RESULTS REPORTED IN DERIVED SCORES

*Figures Reported in Percentages

The Factor	T & C	Regular	MSC Norms
			Approx. Percent
ACE L SCORE			
10	0.44	0.00	1
9	3.07	2.19	3
8	5.70	5.70	8
7	21.93	12.28	16
6	29.39	17.90	22
5	22.81	25.21	22
4	10.09	20.18	16
3	4.39	8.77	8
2	1.32	4.39	3
1	0.44	2.63	1
None	0.44	1.75	
ACE Q SCORE			
10	3.51	0.88	1
9	4.82	3.07	3
8	7.89	3.51	8
7	18.42	13.60	16
6	27.19	24.56	22
5	21.05	18.86	22
4	13.16	27.05	16
3	2.63	4.82	8
2	0.88	7.02	3
1	0.00	0.88	1
None	0.44	1.75	
ACE TOTAL SCORE			
10	0.44	0.44	1
9	2.63	1.75	3
8	10.53	7.01	8
7	19.30	10.96	16
6	29.39	16.23	22
5	22.81	25.44	22
4	10.96	19.30	16
3	3.07	10.09	8
2	0.44	4.82	3
1	0.00	2.19	1
None	0.44	1.75	

TABLE IX (continued)

SUMMARY PERCENTAGEWISE OF APPLICANTS OF THE T & C SAMPLE AND THE REGULAR SAMPLE WITH RESPECT TO ORIENTATION TEST RESULTS REPORTED IN DERIVED SCORES

The Factor	T & C	Regular	MSC Norms
MSC TEST OF ENGLISH USAGE			
10	0.44	0.44	1
9	0.44	0.88	3
8	4.82	5.70	8
7	7.89	14.04	16
6	15.35	23.68	22
5	18.86	16.67	22
4	23.25	17.11	16
3	11.40	7.46	8
2	3.95	3.07	3
1	0.88	1.32	1
None	12.72	9.65	
MSC ARITHMETIC PROFICIENCY			
10	0;00	0.88	1
9	0.44	1.32	3
8	3.07	5.26	8
7	7.08	14.47	16
6	18.42	21.49	22
5	25.12	20.18	22
4	16.23	15.35	16
3	14.04	9.21	8
2	2.19	1.32	3
1	1.75	0.44	1
None	12.72	10.09	
MSC READING TEST - VOCABULARY			
10	0.44	0.00	1
9	0.44	0.88	3
8	3.51	3.07	8
7	14.91	14.91	16
6	22.37	21.49	22
5	18.86	22.37	22
4	22.37	17.98	16
3	11.84	13.60	8
2	3.51	2.63	3
1	0.44	1.75	1
None	1.32	1.32	

TABLE IX (continued)

SUMMARY PERCENTAGEWISE OF APPLICANTS OF THE T & C SAMPLE AND THE REGULAR SAMPLE WITH RESPECT TO ORIENTATION TEST RESULTS REPORTED IN DERIVED SCORES

The Factor	T & C	Regular	MSC Norms
MSC READING TEST - COMPREHENSION			
10	0.00	0.44	1
9	1.75	2.19	3
8	3.95	6.58	8
7	18.86	14.46	16
6	25.00	19.74	22
5	15.79	25.44	22
4	21.05	16.67	16
3	9.65	7.89	8
2	2.19	3.51	3
1	0.44	1.32	1
None	1.32	1.32	
MSC READING TEST - TOTAL			
10	0.44	0.00	1
9	0.44	1.75	3
8	4.82	5.70	8
7	14.91	14.47	16
6	20.18	18.86	22
5	23.68	25.00	22
4	19.74	16.67	16
3	11.40	10.96	8
2	2.63	3.07	3
1	0.44	1.75	1
None	1.32	1.32	

When analyzing the frequency of these distributions, it should be kept in mind that a selection process with respect to test results has already taken place in the T & C sample. These tests are not the only ones used by the counselors during the testing and counseling session with these borderline candidates. Each case was handled individually and often other tests were added to these to furnish the counselor with a more adequate picture of the applicant. The orientation tests were common to all candidates whether borderline or regular admissionees and these were the items that make for comparison. The wide variety of other test items did not lend itself to comparison with these samples.

Inspection of Table IX will reveal that the random sample fits quite closely to the distribution of the norm group. In each of the tests and sub-tests approximately forty four percent fall at the derived scores of "5" and "6". Because of the selection factor that has already taken place in the T & C sample the percentages in the derived score ratings of "5, 6, & 7" were somewhat larger than those indicated in the random sampling and in the MSC Norm listing.

It was verified by Kenny's (51:141) formula for the t test $t = \frac{M_{sample} - M_{pop}\ (\sqrt{\ sample})}{\text{Standard Deviation}_{pop.}}$

that the regular sample could be assumed to be a random sample of the total population. This statistic was found significant at the one percent level of confidence. The value of t was 4.2 and for the degrees of freedom it was necessary for t to exceed 2.601 to assure that the randomization could be assumed to be significant at the one percent level of confidence. The total ACE scores for the randomization and the norm group were utilized to check this randomization.

On the achievement tests, the MSCTEU and the MSCAPT, the distribution of the regular sample tended to approximate quite closely the norm percentages. However, the T & C sample on the Test of English Usage tended to have a higher frequency of "3" and "4" derived scores. The Arithmetic Proficiency Test derived scores tend to conform more closely to the norm for the T & C sample. This was also true for the random regular sample.

On the MSC Reading Test both the T & C and Regular samples tended to closely approximate the norm percentages. The T & C group has a slightly higher percentage at the derived scores of "3" and "4".

Because of the nature of derived scores, the reader should keep in mind that the predictive value of these scores is most helpful at the extremes - 1, 2, 3 at the low end and 8, 9, 10 at the high end.

DESCRIPTION OF CANDIDATES SELECTION OF SCHOOL

Michigan State College offers a possibility of nine broad categories of classification. There are numerous majors that the entering candidate can select. In Table X are revealed the percentages of the choice of school of the three samples. At the time of the filing of the applications, the Physical Education major was listed in the School of Business and Public Service. Effective in 1953, this major was transferred to the School of Education. As a consequence, the percentages reported included the Physical Education majors in the School of Education.

TABLE X

ENROLLMENT BY SCHOOL FOR EACH OF THE THREE SAMPLE GROUPS

*Figures Reported in Percentages

The Factor	Refusals	T & C	Regular
ENTERING SCHOOL			
Agriculture	8.33	4.82	7.89
Business & Public Service	27.19	21.93	19.74
Engineering	7.46	9.21	10.09
Home Economics	7.02	1.32	7.02
Science and Arts	11.40	12.72	17.11
Veterinary Medicine	3.95	0.88	2.19
Education	10.08	6.58	10.53
Basic - No Preference	24.56	42.11	25.44
Unclassified	0.00	0.88	0.00

The striking difference revealed by the foregoing table was the frequency of the T & C sample enrolled in the Basic - No Preference classification. However, this is somewhat misleading. The T & C people have undergone extensive testing and counseling and undoubtedly this has contributed to the large number deciding not to declare a major. To get an adequate over all picture, it would be desirable to ascertain how many of the regular sample changed to a No Preference classification.

The classifications of schools reported were those under which each application was processed for admission. This T & C classification of No Preference might have been considerably less before the counseling process was instituted. However, it should be noted that the highest percentage for the regular sample was No Preference with about one out of four individuals as yet undecided about a major area of study.

The second and third choices of schools was the same for each of the three samples, with Business and Public Service curricula and Science and Arts curricula being selected in this respective order. The fourth choice of curricula for the T & C sample was in the field of Engineering as against an Education major for the regular and refusal sample.

In analyzing this fact, one should keep in mind that the percentage of women in the T & C sample was considerably less than in the other two samples. If we consider ultimate job outlets, we can ascertain the plausibility of this school selection. Because of the small number of women in the T & C sample, it can account for the small percentage selecting a major in the school of Home Economics.

The large number electing a No Preference classification in the T & C sample accounted for the somewhat lower percentages in remaining schools when comparing the percentages with those of the other samples.

SUMMARY OF CHAPTER V

Information in this chapter has been based upon the three samples of 228 applicants each for the Regular Admissionees, the Testing and Counseling Admissionees, and the Refusals at Michigan State College for the Fall Term 1952. It has been presented in an effort to ascertain some of the similarities and differences that exist with respect to the groups when assembling information from the application blank as presented by the applicant and the secondary school.

There are differences in the personal information factors among the samples but taken individually they do not become very revealing. When all the factors are pooled for

each individual case, they become most significant. The similarities among the groups overshadow the differences.

The college admissions officer is conscious of the role that the secondary school can play in furnishing information about candidates. Noticeable similarities among the three groups were present with respect to the vast majority being recent high school graduates with academic preparation from Michigan high schools. The most significant difference was denoted by the high school rank where the predominate position of the regulars was in the top half of the graduating classes and the position of the T & Cs and refusals was in the lower half.

One of the more important findings appears to be in the area of recommendations and the quality of these recommendations. It is apparent that high school officials are not fully meeting the obligation which this responsibility entails. Careful liaison work needs to be done in the exchanging of adequate and pertinent personnel information between secondary schools and colleges.

There are nearly as many course patterns as their are cases in the composite of the three samples. However, it is apparent that academic preparation predominates and that the admission procedure hues rather closely to the stated requirements of the ten academic units.

When referring to extra-curricular activities, the regular sample has a higher percentage of participation in activities other than athletic than was characteristic of the other two samples.

The testing report considers only the regular and borderline samples. Kenny's t test verified the randomization of the regular sample as compared with the MSC Norm group. The greatest deviation appears to be in the area of the language factor. One must also keep in mind that a selection factor on the basis of derived scores on these tests had taken place with the borderline sample, and that those applicants scoring consistently in the lower (1, 2, 3) derived scores were eliminated before they had a chance to enter this sample.

The most profound difference with the selection of a broad curricula and enrollment in a school was found in the No Preference area where over forty percent of the T & C group were found in contrast to about twenty five percent of the other two samples. The factor of individual counseling before admittance may be the crucial factor here and this should be kept in mind when interpreting this report.

A somewhat, although not exceptional, higher percentage of Borderline Admissionees were subjected to probationary action than was the case with the Regular Admissionees. Approximately fifty percent of each sample had taken advantage of the services offered by the Counseling Center.

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CHAPTER VI

THE RELATIONSHIP BETWEEN SELECTED CRITERIA AND SCHOLASTIC SUCCESS FOR REGULAR AND BORDERLINE ADMISSIONEES

This chapter is chiefly concerned with an analysis of the correlation studies conducted to establish the relationship between various admissions criteria and the cumulative grade-point-average obtained by the applicants selected for the regular random sample and the borderline sample.

All correlations reported were based on cases that possess both factors, the criteria and the cumulative grade-point-average. Because of attenuation in the samples, this varies from term to term and from factor to factor. The significance of the correlations is based on Snedecor's (90:149) table #7.3, "Correlation Coefficients at the 5% and 1% Levels of Significance", utilizing two hundred degrees of freedom except where so indicated by "#" in the tables. Guilford (38) states that with large values of N it is not necessary to interpolate in this table. Therefore, the closest applicable N as given in the table has been used.

The following variables were considered in comparison with the Michigan State College cumulative grade-point-average of the candidates: 1) derived scores on the American

Council on Education Psychological Examination - Q score, L score and Total score; 2) derived scores on the Michigan State College Test of English Usage; 3) derived scores on the Michigan State College Arithmetic Proficiency Test; 4) derived Total score on the Michigan State College Reading Test; 5) the high school recommendation; 6) the Michigan State College counselor recommendations for the testing and counseling sample; and 7) the previously acquired cumulative grade-point-average.

A STUDY OF THE ORIENTATION TEST FACTORS

The major purpose of this phase of the study was to determine the relationship between the various orientation test scores and the academic success of the candidates in the two samples for each of the three terms of the freshman year. Each term there were drop-outs, and hence greater selectivity can be expected to have occurred among the cases in the sample. This selectivity and corresponding effect of homogeniety undoubtedly influences the relationships obtained. No attempt was made to determine reasons for dropping out of college. To study this factor, however, might add some insight to aid in the interpretation of these results.

ACE Derived Scores. The American Council on Education Psychological Examination is one of the more commonly used measures of general scholastic aptitude in college orientation test batteries. It forms a vital part of the orientation test battery employed at Michigan State College. It should not be concluded, however, that it has precedence over the other test factors. It is only when all factors are considered that they become most meaningful. Most investigators will agree that no single measure should be used as the sole criteria for judging the potentiality of any specific candidate. The correlations obtained between the ACE derived scores and the cumulative grade-point-averages follow. The ACE furnishes three scores - the Q, the L, and the Total.

Table XI shows that positive relationships between the ACE Q scores exist for both the borderline and the regular samples. This positive relationship carries through for all three terms of the freshman year and progressively increases. The size of the sample in each case progressively decreases because of the attenuation of the samples. Inspection of the records indicates that the principal reason for drop-outs was low academic achievement. There were many artifacts operating and control of variables was not exercised. No investigation of the causes for this increase in

TABLE XI

CORRELATIONS BETWEEN A.C.E. DERIVED "Q" SCORES AND CUMULATIVE GRADE-POINT-AVERAGES

Quarter	Regular		Borderline	
	r	σ_r	r	σ_r
Fall	.2786** N/219	.0625	.2357** N/221	.0638
Winter	.3056** N/211	.0626	.2527** N/201	.0662
Spring	.3695** N/203	.0608	.2653** N/185	.0685

* Significant at the five percent level of confidence or less.

**Significant at the one percent level of confidence or less.

Significance of the correlations was determined by reference to Snedecor's (90:149) table of correlation coefficients utilizing 200 degrees of freedom.

relationship was ascertained. Generally, the more homogeneous the group, the less the magnitude of the resulting correlation. These obtained correlations were significant at the one percent level of confidence. Guilford (38) states that the strength of relationship can be described for correlations of .20 - .40 as low correlation with a definite but small relationship. The correlations of from .2786 to .3695 for the regular sample are somewhat greater in magnitude than those for the borderline sample which ranged from .2357 to .2653. These correlations refer to groups and any individual prediction should be exercised with extreme care. Interpretation of these Q score relationships must consider the exact quality of the factors involved. The cumulative GPA was composed of teacher grades for all M.S.C. courses taken. The variable of difference in marking procedures should be kept in mind. Also, many courses were involved which did not require quantitative thinking and skills.

Another aspect of the ACE test is the "L Score" which is a measure of linguistic capacity exhibited by the individual at the time of testing. When referring to the derived ACE "L" scores in Table XII, it was noted that the relationship for the regular admissionees again increases slightly and progressively from the first term to the third term with correlations of .4507, .4664 and .4695 respectively. The

TABLE XII

CORRELATIONS BETWEEN A.C.E. DERIVED "L" SCORES AND CUMULATIVE GRADE-POINT-AVERAGES

Quarter	Regular r	Regular σ_r	Borderline r	Borderline σ_r
Fall	.4507** N/219	.0504	.3001** N/221	.0613
Winter	.4664** N/211	.0540	.3059** N/201	.0641
Spring	.4695** N/203	.0549	.2521** N/185	.0683

* Significant at the five percent level of confidence or less.

** Significant at the one percent level of confidence or less.

Significance of the correlations was determined by reference to Snedecor's (90:149) table of correlation coefficients utilizing 200 degrees of freedom.

correlations obtained for the borderline sample were not as great in magnitude. The obtained r's were .3001, .3059, and .2521, respectively, for the three terms. In this sample, the spring term correlation was lower. This was contrary to the findings for the regular sample. An unmeasured artifact appears to have operated, and it would be necessary to establish some controlled experiments before drawing conclusions concerning possible influences.

It remains imperative, however, that linguistic measures receive attention. The essential aspects of linguistic facility for adequate accomplishment at the college level have received extensive attention in the research. Results of the present study tend to bear out existing research and indicate that the derived L score is a valuable counseling tool for the regular sample. The relationship for the borderline sample was considerably less. It would appear that giving equal weight to this factor for both samples would be fallacious. This would imply that differential prediction was in order. Johnson (50) concluded that giving the same weighting to all predictive variables and applying them to the estimation of scholastic success for all students alike was a questionable procedure. By definition the borderline sample was a unique group and the application of a similar

procedure for both samples does not appear sound. Additional experimentation should be conducted to establish regression equations for each sample.

The third score furnished by the ACE Psychological Examination is the Total Score. The Q score and the L score are combined to furnish this score. This total score is indicative of the over all capacity of the student at the time of testing. Correlation coefficients obtained for each of the samples may be found in Table XIII. The results show that there was a substantial relationship between the total ACE scores and the cumulative grade point averages when considering the regular sample. The magnitude of these correlations was found to be very similar to those ascertained by other investigators.[1] There was a slight increase in the correlation each term for this group. With this slight increase in evidence, it would appear that this ACE score retains value as a counseling tool beyond the first term. This finding was opposite to that ascertained in a study conducted at Fresno State College by Smith (89). He noted that examination records lose significance after a year or so.

The magnitude of the correlations for the borderline sample were somewhat less when relating the Total ACE score and the cumulative GPA. For this group the highest correla-

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[1]Refer to Table I, Chapter II, Page 38.

TABLE XIII

CORRELATIONS BETWEEN A.C.E. DERIVED TOTAL SCORES AND CUMULATIVE GRADE-POINT-AVERAGES

Quarter	Regular		Borderline	
	r	σ_r	r	σ_r
Fall	.4460** N/219	.0543	.3240** N/221	.0603
Winter	.4566** N/211	.0546	.3019** N/201	.0643
Spring	.4928** N/203	.0533	.2543** N/185	.0690

* Significant at the five percent level of confidence or less.

** Significant at the one percent level of confidence or less.

Significance of the correlations was determined by reference to Snedecor's (90:149) table of correlation coefficients utilizing 200 degrees of freedom.

tion was obtained between the Total Score and the first term GPA. The magnitude of the correlations decreased progressively from the first to third term and were .3240, .3019 and .2543 respectively. It appears that the factors operating for the borderline sample differ from those in the regular sample. Controlled experiments should be exercised in an attempt to establish the differences. Table XIII shows that the magnitude of the correlations (.4928 for the regular sample; .2543 for the borderline sample) differs considerably, although both were found to be significant at the one percent level of confidence.

In general, it can be said that the results of this study corroborate that of others when considering the regular sample, but that the testing and counseling sample presents a unique problem that must be considered apart and on its own merits. The establishment of regression equations for each sample appears in order to enable differential prediction. The admissions function would become somewhat more complex but it is possible that a greater stabilization of student population could result.

MSCTEU Derived Scores. The Michigan State College Test of English Usage can be regarded as an achievement test in the field of language usage. Achievement tests have formed

component parts of many testing batteries. In support of the use of achievement tests, Durflinger (28) found a median correlation coefficient of approximately .55 between content examinations and college grades. Johnson (50) in his study on the use of the Tests of General Educational Development, which are achievement tests, found that these instruments are valuable and efficient for predictive purposes.

Table XIV indicates the relationship found for the MSCTEU and the cumulative grade-point-averages for the two samples. A substantial relationship can be noted for the regular sample as against a relationship of considerably less magnitude for the borderline sample. All correlations found were significant at the one percent level of confidence. There was only a slight increase in the correlation between Fall and Winter quarters for the regular sample (.4589 - .4896). At the same time, there was a slight decrease in the relationship for the borderline sample (.2993 - .2829). The relationship for the Spring quarter revealed r's of .7025 and .3034 for the regular and borderline samples respectively.[1]

It should be kept in mind that attenuation has occurred in each of the samples and that many of the low achievers

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[1]The magnitude of this correlation was much greater than others. As a safeguard against mathematical error, several calculations were made to verify the accuracy. Unmeasured factors appear to be in operation which influence this correlation.

TABLE XIV

CORRELATIONS BETWEEN MICHIGAN STATE COLLEGE TEST OF ENGLISH USAGE DERIVED SCORES AND CUMULATIVE GRADE-POINT-AVERAGES

Quarter	Regular		Borderline	
	r	σ_r	r	σ_r
Fall	.4589** N/203	.0555	.2993** N/192	.0659
Winter	.4896** N/195	.0546	.2829** N/178	.0691
Spring	.7025** N/190	.0368	.3034**# N/166	.0707

* Significant at the five percent level of confidence or less.

** Significant at the one percent level of confidence or less.

Significance of the correlations was determined by reference to Snedecor's (90:149) table of correlation coefficients utilizing 200 degrees of freedom.

\# Utilized 150 degrees of freedom with this correlation.

have been eliminated from the sample by the end of the third term. Considering this factor, it can be concluded that the MSCTEU can be used with confidence as a counseling tool even beyond the first term. The relationship obtained particularly for the random sample, bears out expressed opinion by many that language factors are of great importance in accomplishment at the college level.

The lesser magnitude of the relationship between the cumulative grade-point-averages of the borderline admissionees and the MSCTEU indicated that it must be used carefully. As with ACE scores, it appears that additional studies in the area of differential prediction and the establishment of regression equations for the two samples is a logical course of action. The magnitude of this correlation was established with a group and when used in individual counseling situations, it must be used with extreme care. Used in conjunction with other tools, it would have some value in the counseling situation. It should be kept in mind that a correlation is always relative to the situation under which it is obtained, and the magnitude does not represent any absolute.

MSCAPT Derived Scores. The second of the achievement tests used in the orientation test battery for Michigan State College freshmen is the Michigan State College Arithmetic

Proficiency Test. The correlation matrix for these two samples reveals that the highest relationship obtained with the cumulative grade-point-average was between that variable for the spring quarter and the MSCAPT score. Correlations obtained at the end of this term were .5031 for the regular sample and .2752 for the borderline sample. As in the case of the MSCTEU results, the magnitude of the relationship increased each of the three terms for both the regular sample and the borderline sample. Table XV outlines the relationships obtained for each of the three quarters. All correlations were found to be significant at the one percent level of confidence.

The progressive increase in correlations gives evidence that this test might continue to have value as a counseling tool. Remembering that derived score techniques cause the extreme scores to be more indicative, the relationship for the regular sample can be assumed to have moderate value particularly when used in conjunction with other measures. Because of the considerable difference in magnitude of the relationships between the random and borderline samples, this finding seems to support those of the two previous tests. Studies relative to differential prediction should be conducted to render these indices of most value to the admissions officer and other personnel workers.

TABLE XV

CORRELATIONS BETWEEN MICHIGAN STATE COLLEGE ARITHMETIC PROFICIENCY TEST DERIVED SCORES AND CUMULATIVE GRADE-POINT-AVERAGES

Quarter	Regular r	Regular σ_r	Borderline r	Borderline σ_r
Fall	.4580** N/203	.0556	.2239** N/192	.0687
Winter	.4692** N/195	.0560	.2606** N/178	.0701
Spring	.5031** N/190	.0543	.2752**# N/166	.0720

* Significant at the five percent level of confidence or less.

** Significant at the one percent level of confidence or less.

Significance of the correlations was determined by reference to Snedecor's (90:149) table of correlation coefficients Utilizing 200 degrees of freedom.

\# Utilized 150 degrees of freedom with this correlation.

MSCRT Derived Scores. One of the skills deemed necessary for accomplishment in academics at the college level is the ability to read. The orientation battery provides a measure of the applicant's reading ability. The Michigan State College Reading Test furnishes three scores: a vocabulary score, a comprehension score and a total score. Only the total score was considered in this investigation.

When relationships between the MSCRT derived scores and scholastic achievement for the first term (regular - .5660, borderline - .3990) were compared with relationships found for the other tests of the orientation battery for the first term, it was found that those for the MSCRT tended to be somewhat greater. When referring to the regular and borderline samples respectively, the scores reported for the first term for the other tests were as follows: .4460 and .3240 for the Total ACE; .2786 and .2357 for the ACE Q score; .4507 and .3001 for the ACE L score; .4589 and .2993 for the MSCTEU score; and .4580 and .2239 for the MSCAPT score. In referring to Table XVI it becomes apparent that there was a slight regression in the relationship for both samples in light of the cumulative GPA's acquired during the winter term. This trend was reversed for the regular sample in the spring term, but the magnitude of the relationship for the borderline sample was again slightly less.

TABLE XVI

CORRELATIONS BETWEEN THE TOTAL DERIVED SCORES OF THE MICHIGAN STATE COLLEGE READING TEST AND CUMULATIVE GRADE-POINT-AVERAGES

Quarter	Regular r	Regular σ_r	Borderline r	Borderline σ_r
Fall	.5660** N/219	.0460	.3999** N/220	.0568
Winter	.5180** N/211	.0505	.3196** N/200	.0636
Spring	.6360** N/203	.0419	.2820** N/184	.0680

* Significant at the five percent level of confidence or less.

** Significant at the one percent level of confidence or less.

Significance of the correlations was determined by reference to Snedecor's (90:149) table of correlation coefficients utilizing 200 degrees of freedom.

Table XVI reveals that the magnitude of the relationship between the two variables for the regular sample was substantial. The increase in the relationship for the spring term suggests that this test may well be regarded as an adequate tool for continued use by instructors and counselors.

The correlation results for the borderline sample when relating reading measures and cumulative GPAs follows the same trend as revealed by the other orientation measures. There were correlations (.3999, .3196 and .2820) of positive magnitude significant at the one percent level of confidence. There was a progressive declination in the magnitude of the relationship each subsequent term. As with the other measures, uncontrolled factors may be operating which are peculiar to this type of admissionee. The results suggest that this measure loses some of its effectiveness after the first term. These results also indicated that regression studies should be conducted to facilitate differentiation of prediction practices.

Summary of orientation test correlations. There was a tendency for all correlations to be positive and significant at the one percent level of confidence. The magnitude of the various relationships varied considerably. The

relationships between each of the factors for each of the terms was greater for the regular random sample than for the borderline sample. The correlations tended to increase each successive term when referring to the regular sample and, in general, the relationships were of greatest magnitude for the borderline sample when the test results were compared with the fall quarter grade-point-averages. There appear to be different artifacts operating within each of the samples, and some control studies should be conducted in an attempt to ascertain the cause of the differences in trends and the magnitudes of the relationships.

The Michigan State College Reading Test yielded the relationship of the greatest magnitude of all the tests of the orientation battery when compared with first term GPAs.

The magnitude of the correlations was positive and significant at the one percent level, but of low enough quantity to indicate that decisions and courses of action based on any one single factor would be fallacious. When the results of each test were considered in conjunction with the results of others, they became most meaningful. The results indicated that the applicants of the borderline sample were to be considered in a different frame of reference than that employed for the regular admissionee. This implies the

establishment of regression equations for each sample to facilitate more sound procedures in the admissions function.

There were many indications that the orientation tests were of considerably less value when attempting to predict scholastic achievement for the borderline admissionee. This might be enhanced if proper weighting were applied to each of the measures, enabling differentiation in prediction.

A STUDY OF THE PREDICTIVE VALUE OF OTHER SELECTIVE FACTORS

Other common factors utilized by personnel workers for predicting the scholastic attainment of candidates for college admission are high school achievement, high school recommendations and counselor recommendations of the college counselors when a program of individual testing and counseling for admission is employed. Many authors have stated that recommendations and test scores cease to be of much value after the first term of college; that the best predictor is the previously attained grade-point-average from the college in which he is enrolled. This section is devoted to a report of the relationships obtained when considering these aforementioned factors in light of the obtained cumulative grade-point-averages for each of the three terms of the freshman year. Only the two samples, regular and borderline were utilized.

High School Rank. Reference to Table XVIIa furnishes an indication of the relationship obtained for these samples. There was a substantial relationship between high school rank and first term cumulative GPA (r - .4593) for the regular sample. This relationship (r - .2527) for the borderline sample, however, might be considered low for individual prediction. High school rank was reported in quarters. This was a rough estimate when compared with the cumulative grade-point-average which was reported in decimals to the hundredths. It would appear that high school achievement would be much more meaningful if the overall average were reported in addition to the comparative rank.

When considereing these two factors for the regular sample, the magnitude of the correlation (.3831) for the winter term showed some regression, but returned to about the same level (.4502) for the spring term. Table XVIIa reveals that the opposite was true for the borderline sample. There was a slight increase in the winter term and a decrease in the spring term in the relationship between the high school rank and the cumulative grade-point-averages. There appear to be artifacts operating which were not controlled. No attempt was made in this study to control factors in ascertaining the causes for this difference of trends between the two samples.

TABLE XVIIa

CORRELATIONS BETWEEN THE HIGH SCHOOL RANK AND CUMULATIVE GRADE-POINT-AVERAGES

Quarter	Regular		Borderline	
	r	σ_r	r	σ_r
Fall	.4593** N/217	.0537	.2527** N/203	.0659
Winter	.3831** N/207	.0594	.2628** N/185	.0686
Spring	.4502** N/199	.0567	.1901*# N/170	.0741

* Significant at the five percent level of confidence or less.

** Significant at the one percent level of confidence or less.

Significance of the correlations was determined by reference to Snedecor's (90:149) table of correlation coefficients utilizing 200 degrees of freedom.

\# Utilized 150 degrees of freedom with this correlation.

All relationships were found to be significant at the one percent level of confidence with the exception of the correlation at the end of the spring term for the borderline sample. The obtained correlation of .1901 was significant at the five percent level of confidence.

The correlations obtained for the regular sample in light of high school rank were similar in magnitude to those obtained when the results of the orientation test were correlated with the cumulative grade-point-averages. The same can be said for the borderline sample. For this group, high school rank did not seem to furnish any more insight into college achievement than did the orientation battery.

Because of the importance placed on the high school record, a percentage table (Table XVIIb) was assembled to determine what proportion of admissionees for each quarter fell below the required "C" (2.00) average. Inspection of this table will reveal that a much larger proportion of lower quarter people failed to make the required 2.00 average for each of the three terms. It would appear that the third term percentages were the most revealing in as much as the student had had ample opportunity to adjust to the college environment and to have received assistance from instructors and the various personnel services. In both samples, fifty percent or more of the fourth quarter students had failed to make

TABLE XVIIb

PERCENTAGE RELATIONSHIP FOR T & C AND REGULAR SAMPLES BETWEEN CUMULATIVE GRADE-POINT-AVERAGES AND H.S. RANK

Quarter Rank in H. S. Class	Percentage Obtaining Less Than 2.00 GPA					
	1st Term		2nd Term		3rd Term	
	Regular	T & C	Regular	T & C	Regular	T & C
First	15.91 N/88	20.00 N/5	16.09 N/87	40.00 N/5	7.81 N/84	20.00 N/5
Second	38.16 N/76	21.05 N/38	38.03 N/71	26.47 N/34	35.71 N/70	27.27 N/33
Third	45.45 N/44	52.46 N/61	47.50 N/40	49.12 N/57	46.15 N/39	42.86 N/56
Fourth	77.78 N/9	58.33 N/96	57.14 N/7	62.07 N/87	50.00 N/6	58.67 N/75
G.E.D.	-----	40.00 N/10	-----	40.00 N/10	-----	20.00 N/10
Not Given	80.00 N/5	50.00 N/12	80.00 N/5	44.44 N/9	80.00 N/5	42.85 N/7
Total Making Less Than 2.0	33.33 N/222	48.31 N/221	32.08 N/212	50.25 N/201	30.88 N/204	44.86 N/185

Note: The above percentages take into consideration.the drop-outs in each sample for each ranking in class. The N denotes the number in each sample that received that particular rank of those remaining in school to the end of the term.

the 2.00 average at the end of the third term. This was found to be true of more than forty percent of the third quarter students.

When considering the upper half of the graduating classes, more than sixty five percent of these people maintained an average of "C" or better. The regular sample had a much greater percentage of upper half people than the other sample. By screening and definition, the students in the borderline sample were originally recognized as low achievers according to the high school record. For the total of both samples it should be noted that about thirty one percent of the regular sample and about forty five percent of the borderline sample remaining in school through the end of the freshman year failed to make the 2.00 average. On this basis it would have to be concluded that a sizable number of students in the borderline sample would be eliminated should the program of individual testing and counseling for admission be discarded. Fifty five percent of this group remaining to the end of the third term have proved their capacity to meet the minimum standard of a 2.00 cumulative grade-point-average.

High School Recommendation. As previously stated[1]

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[1]See Chapter V, Page 90

the admissions office at Michigan State College, as a member of the Michigan College Agreement, places practically one hundred percent faith in the recommendation of the high school officials. This is particularly true when the application of the borderline admissionee comes to the attention of the admissions personnel. Cosand (19) reports that the secondary school recommendation is one of the top five methods used for granting admission to college, and the one most recommended by principals themselves. In particular, it is used with respect to students who do not quite measure up academically, but who, in the opinion of the principal, are capable of doing college work.

Reference to Table XVIIIa indicates that the correlations obtained in this study were the lowest of all for this important factor. The magnitude of the correlations for the regular sample, considering the two variables of recommendation and cumulative grade-point-average for each of the three terms, were .2648,.1979, and .2044, respectively. These relationships were found to be significant at the one percent level of confidence. However, with a correlation of this magnitude, any attempt to base individual prediction on this factor would seem to be precarious. The results were even less favorable for the borderline admissionees. Here the obtained r's were .1331, .1653, and .1277 for each of the first three terms, respectively. Only one of these, the

TABLE XVIIIa

CORRELATIONS BETWEEN THE HIGH SCHOOL RECOMMENDATION AND CUMULATIVE GRADE-POINT-AVERAGES

Quarter	Regular r	Regular σ_r	Borderline r	Borderline σ_r
Fall	.2648** N/222	.0626	.1331 N/220	.0664
Winter	.1979** N/212	.0661	.1653* N/200	.0690
Spring	.2044** N/204	.0673	.1277 N/186	.0723

* Significant at the five percent level of confidence or less.

** Significant at the one percent level of confidence or less.

Significance of the correlations was determined by reference to Snedecor's (90:149) table of correlation coefficients utilizing 200 degrees of freedom.

winter term correlation (.1653), proved to be significant and this was at the five percent level of confidence. The magnitude of these correlations was only slight and presents an almost negligible relationship. These obtained relationships indicated that for the critical group of borderline applicants, to base admission on the recommendation factor alone was not justified.

As was true with the categorization of high school rank, the high school recommendation was a rough measure (only three broad categories). The correlations obtained were the result of this rough measure on one side of the statistic and a refined measure to the hundredth decimal for the cumulative grade-point-averages on the other side of the statistic. Because of the critical importance of the recommendation, a subordinate table (Table XVIIIb) was constructed outlining the percentages of each sample which failed to meet the "C" or 2.00 standard of scholastic achievement for the first year. These were reported with respect to each of the main recommendation types.

Inspection of this table (Table XVIIIb) indicates that, although the correlations were low and were undoubtedly depressed somewhat as a result of the grossness of the recommendation categories, the recommendation should not be disregarded.

TABLE XVIIIb

PERCENTAGE RELATIONSHIP FOR T & C AND REGULAR SAMPLES BETWEEN CUMULATIVE GRADE-POINT-AVERAGES AND HIGH SCHOOL RECOMMENDATIONS

Type of H.S. Recommendation	Percentage Obtaining Less than 2.00 GPA					
	1st Term		2nd Term		3rd Term	
	Regular	T & C	Regular	T & C	Regular	T & C
Yes	31.00 N/200	25.00 N/20	31.09 N/193	31.58 N/19	29.03 N/186	22.22 N/18
Reserved	41.18 N/17	48.10 N/158	33.33 N/15	47.02 N/141	46.67 N/15	47.33 N/131
No	100.00 N/5	60.47 N/43	75.00 N/4	58.54 N/41	66.67 N/3	47.22 N/36
Total Making Less Than 2.00	33.33 N/222	48.41 N/221	32.08 N/212	50.25 N/201	30.88 N/204	44.86 N/185

Note: The above percentages take into consideration the drop-outs in each sample for each type of recommendation. The N denotes the number in each sample that received that particular type of recommendation of those remaining in school to the end of the term.

The correlation principle implies that prediction of a specific grade-point-average from another factor is possible within certain errors of prediction if the relationship is of great enough magnitude. Because of the slight magnitude of the correlations, it might be intimated that recommendations were of questionable value. It appears from inspection of the percentage table (Table XVIIIb), that the person rendering the recommendation was able, to some degree, to estimate whether a student would meet the minimum standards. For the same reasons as when reporting on Table XVIIb[1], it would appear that interpretation of the percentages for the third term were most revealing.

In both samples, more than seventy percent of the cases remaining in school through the third term and granted a "yes" recommendation maintained the required 2.00 average. This 2.00 GPA was maintained in both samples by slightly more than fifty percent of those receiving a "reserved" recommendation who were still in school at the end of the third term. However, of the borderline admissionees receiving a "no" recommendation and being enrolled at the conclusion of the third term, more than fifty five percent achieved at or above the minimum passing standard. In the regular sample,

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[1]See page 138.

two-thirds of those given a negative recommendation failed to make a 2.00 cumulative average. The possible implication that can be drawn rests on the objectivity of the recommendation. It would appear that recommending officials should scrutinize their practices and techniques in arriving at decisions. Many uncontrollable factors operate which the high school officials cannot regulate, but if those receiving a "no" recommendation and maintaining a 2.00 cumulative GPA had been refused admission, many able college students would have been denied the opportunity to receive a college education.

These percentages only take into consideration those people who were actually in school through the entire three terms. There were forty three (approximately 19 percent) drop-outs in the borderline sample and twenty four (approximately 11 percent) drop-outs in the regular sample during this first year. Of the drop-outs in the testing and counseling sample, twenty three of the forty three (approximately 53 percent) were under a 2.00 average at the time of separation. Eleven of the twenty four (approximately 46 percent) drop-outs in the regular sample had failed to maintain a GPA of 2.00 at the time of dropping from Michigan State College.

If the totals of this table (XVIIIb) are considered, it will be noted that about thirty one percent of the regular

and forty five percent of the borderline sample in attendance all three terms failed to make the minimum "C" average for the first year's work.

When predicting level of accomplishment, the findings of this phase of the study indicated that the relationship between the high school recommendation and the level of achievement through the freshman year obtained by the people of these two samples was, at best, of slight magnitude. When percentages above and below the minimal 2.00 average are considered, those receiving a "yes" recommendation generally, as a group, have better achievement than the other two groups receiving "reserved" and "no" recommendations. However, it was ascertained that a sizable number of admissionees had proved themselves capable of attaining at the minimal standard and their claim to a college education would have been denied had admission been based solely on a "yes" recommendation. The review of recommendations and the findings indicated that there was a need for a more comprehensive and objective approach to this function on the part of the recommending officials.

M.S.C. Counselor Recommendations. The individual testing and counseling admissions program for the borderline case places considerable confidence in the recommendations of the counselors employed at the Counseling Center. Each

candidate for admission, when submitting to the individual testing and counseling procedures, was administered a comprehensive battery of tests which includes many other measures other than those found in the orientation battery. After scoring, the candidate has an interview with the counselor at which time the counselor reviews all the information on the application blank, the results of the testing, and tries to elicit additional information from the interviewee. At the conclusion, the counselor submits a letter to the Registrar with his recommendations. These recommendations were classified in three categories - an enthusiastic recommendation, a moderate recommendation, or an ambivalent or neutral recommendation. In this case, as in the case of the high school rank and high school recommendation, there was a rough measure on one side of the correlation analysis and a refined measure to the hundredth decimal on the GPA side of the analysis.

The information furnished in Table XIXa reveals that there were correlations for each of the three terms significant at the one percent level of confidence. These relationships showed an r of .3310, .5846, and .5821 for each of the successive terms. These relationships for the M.S.C. counselor recommendations were of a substantially greater magnitude than those for the high school recommendation when correlated with the cumulative grade-point-averages. As in the previous

TABLE XIXa

CORRELATIONS BETWEEN THE M.S.C. COUNSELOR RECOMMENDATIONS AND CUMULATIVE GRADE-POINT-AVERAGES

Quarter	Borderline r	σ_r
Fall	.3310** N/209	.0617
Winter	.5846** N/189	.0480
Spring	.5821**# N/173	.0504

* Significant at the five percent level of confidence or less.

**Significant at the one percent level of confidence or less.

Significance of the correlations was determined by reference to Snedecor's (90:149) table of correlation coefficients utilizing 200 degrees of freedom.

Utilized 150 degrees of freedom with this correlation.

instances in this section of the analysis, the third term relationship would appear to be the most stable. Enough time had elapsed to allow for adequate adjustment.

The drop-out rate should be considered. There were forty three drop-outs in this sample and twenty three of the drop-outs had failed to maintain a 2.00 average at the time of separation. Table XIXa reveals the utilization of an N of 173 in computing the correlation. The twelve admissionees unaccounted for had no letters on file from which the counselor estimate could be analyzed.

In making a comparison of the magnitude of the relationships between the high school recommendation and the M.S.C. counselor recommendations, the M.S.C. counselor recommendation revealed the greater r. The magnitude of the relationship decreased with subsequent terms when utilizing the high school recommendation and this was reversed when the M.S.C. counselor recommendation was considered.

Because of the rough measure on one side of the correlation, a percentage table (Table XIXb) was formulated. This table reveals that more than eighty percent of the admissionees receiving an enthusiastic recommendation from the M.S.C. counselor achieved at or above the 2.00 level for the three terms investigated. Approximately sixty percent of those receiving a moderate recommendation were successful above the minimal standard. Of those receiving a neutral

TABLE XIXb

PERCENTAGE RELATIONSHIP FOR THE T & C SAMPLE BETWEEN CUMULATIVE GRADE-POINT-AVERAGES AND M.S.C. COUNSELOR RECOMMENDATIONS

Counselor Recommendation	Percentage Obtaining less than 2.00 GPA 1ST Term	2ND Term	3RD Term
(3) ENTHUSIASTIC	27.42 N/62	18.64 N/59	18.18 N/55
(2) MODERATE	45.45 N/88	53.09 N/81	40.54 N/74
(1) AMBIVALENT	78.95 N/57	87.50 N/48	90.70 N/43
G.E.D. - only	30.00 N/10	30.00 N/10	30.00 N/10
No Report	50.00 N/4	66.67 N/3	33.33 N/3

Note: The above percentage take into consideration the drop-outs in the borderline sample for each type of counselor recommendation. The N denotes the number in the sample that received the particular type of recommendation of those remaining in school to the end of the term.

recommendation, only about ten percent maintained a "C" average or better for the three terms of the freshman year.

The evidence revealed that the Michigan State College counselors were able to gain insights about the borderline admissionee beyond those furnished by the high school officials. The magnitude of the correlations was sufficient to compare favorably with those revealed by the orientation tests for the regular sample. It would appear that the additional tests beyond the orientation test battery gave valuable information, and that the individual interview situation provided an opportunity that warrants continuation. A majority of admissionees receiving an enthusiastic and moderate recommendation from the counseling situation proved themselves capable of achieving minimum college standards. Those receiving a neutral recommendation were found to be much greater risks.

Previous M.S.C. Cumulative GPA. After the applicant has completed one college term, it has been generally conceded that the record earned in college becomes the best predictor for future success. Table XX furnishes a comparison for both the regular and T & C samples of previous term and cumulative GPAs in relationship to subsequent cumulative GPAs. The table reveals correlation coefficients of .9307

TABLE XX

CORRELATIONS BETWEEN PREVIOUS M.S.C. CUMULATIVE GRADE-POINT-AVERAGES AND SUBSEQUENT M.S.C. CUMULATIVE GRADE-POINT-AVERAGES

Factors	Regular r	Regular σ_r	Borderline r	Borderline σ_r
1st Term GPA - 2nd Term GPA	.9307** N/211	.0085	.9310** N/201	.0094
1st Term GPA - 3rd Term GPA	.8821** N/203	.0156	.8316** N/184	.0228
2nd Term GPA - 3rd Term GPA	.9607** N/204	.0054	.9406** N/185	.0085

* Significant at the five percent level of confidence or less.

** Significant at the one percent level of confidence or less.

Significance of the correlations was determined by reference to Snedecor's (90:149) table of correlation coefficients utilizing 200 degrees of freedom.

and .9310 respectively, for the regular and borderline samples when utilizing the first term cumulative GPA and the second term cumulative GPA in the statistic. This also was the case (.9607 and .9406 respectively) when the second and third term cumulative GPAs were compared. However, when the first term cumulative GPA was compared with the third term cumulative GPA, a regression was noted. The r for each sample revealed a .8821 for the regular sample and an r of .8316 for the borderline sample. All correlations obtained were significant at the one percent level of confidence.

The relationship of previous cumulative GPA with the subsequent cumulative GPA was found to be of the greatest magnitude of all the factors correlated. All subsequent counseling should take this factor into consideration. In the establishment of regression equations for differential prediction, this factor should be considered along with the test factors, high school rank and the various recommendation factors.

SUMMARY

Information in this chapter was based upon two samples of 228 each. One sample had been admitted under regular

procedures and was called the regular sample; the other sample had been admitted under an individual testing and counseling procedure and was referred to as either the T & C or the borderline sample. The data was presented in an effort to study the relationship between the cumulative grade-point-averages for these samples with the following variables: the Q, L, and Total derived scores on the American Council on Education Psychological Examination; derived scores on the Michigan State College Test of English Usage; derived scores on the Michigan State College Arithmetic Proficiency Test; derived total scores on the Michigan State College Reading Test; high school quarter ranking; high school recommendation; Michigan State College counselor recommendations for the borderline applicants; and previous M.S.C. cumulative GPA with subsequent cumulative GPA. All cumulative grade-point-averages utilized included only those points earned at Michigan State College.

All reported correlations were based on the students completing the term considered here; thus, the attenuation factor should not be forgotten. This resulted in more homogeneity within the groups as successive terms were considered. There was a tendency for better adjustment within the groups in that some of the academically weak students were eliminated.

Those remaining had had an opportunity to become acclimated to the college environment and to take advantage of the personnel services available on the campus.

Analysis of the correlation results revealed that consistently the magnitude of the relationships for the regular sample were greater than those for the borderline sample with the exception of the relationship between the various cumulative grade-point-averages. Most of the correlations were found to be significant at the one percent level of confidence when employing Snedecor's (90:149) table furnishing correlation coefficients at the five percent and one percent levels of significance.

The most significant relationship for the borderline sample was the relationship found between the Michigan State College counselor recommendations and the subsequent success in the first year of college. It would appear from the obtained correlations that the individual testing and counseling procedure for admissions furnishes many insights not before ascertained about these candidates. The correlation results and the percentage table indicated that this program was justified and should be continued. Additional studies should be conducted in an attempt to ascertain artifacts that were operating. Other studies should be conducted relative to regression equations and the

weighting of the various factors for each of the samples in promoting a program of differential prediction.

High school quarter rank proved to be as good a predictive index as the derived scores on the orientation tests for each of the samples. This factor should be included in the establishment of regression equations.

Because of the emphasis placed upon high school recommendations in the Michigan Secondary School-College Agreement Plan, the correlations and percentages revealed by this study indicate that the practice of placing unquestionable faith in this factor would seem to be fallacious. The magnitude of the correlations was small and to resort, solely, to this measure for individual admission and prediction appears unjustified.

CHAPTER VII

CONCLUSIONS AND RECOMMENDATIONS

SUMMARY

The Problem. Each year a sizable group of applicants are admitted to Michigan State College. Some are admitted solely on the basis of high school credentials, while others are admitted on the basis of an individual testing and counseling procedure. Some are transfer students. However, there is a group which ultimately does not gain admission to this college.

For many years college admissions has been a very controversial problem for administrators, personnel workers and instructors. The student body must be selected in accordance with the principles and philosophy of an institution, and the reputation of that institution depends upon the life blood of that organization which is found in its student body.

Michigan State College grants admission to applicants on the basis of the usual criteria of high school program, high school academic achievement and high school recommendations. In addition, the colleges of Michigan operate under

the Michigan Secondary School-College Agreement Plan, whereby the colleges agree to disregard the school pattern of subjects as long as the applicants entering from College Agreement schools are recommended by the high school officials as being among the more able of their graduating class. The agreement also implies that the high schools, the approved high schools under the Michigan College Agreement, will keep adequate personnel records, and that there will be an adequate exchange of information regarding the applicant thereby enabling the personnel program to operate on a continuum throughout the public school and college career of the candidate.

Michigan State College will also admit applicants on the basis of individual testing and counseling. If the candidate does not quite measure up to the standard employed for clear admission, he may gain admission by satisfactorily completing the individual program of testing and counseling providing he is recommended by the counselor who has handled his case. The basis for this investigation was the testing and counseling group admitted in the Fall of 1952. It was deemed desirable to ascertain the effectiveness of this program of admissions and to verify the desirability of a continuation of this program of admissions.

Random samples of the regular admissionees and the refusals were selected by the use of Fisher's Random Number Tables. This procedure gives each applicant an opportunity to be sampled.

The present investigation is concerned with an analysis of factors and criteria pertaining to the admission of candidates to Michigan State College. More specifically, the study attempts to determine: 1) the usefulness of the data given on the college application blank in the selection of candidates for Michigan State College; 2) the differences that exist with respect to the information requested on the application blank among testing and counseling admissionees, regular admissionees and refusals; 3) the relationship between American Council on Education Psychological Examination derived scores of the two admissionee groups (the T & Cs and the regulars) and the first term grade-point-averages obtained at Michigan State College; 4) the relationship between ACE derived scores of the two admissionee groups and the cumulative second term GPAs; 5) the relationship between ACE derived scores of the two admissionee groups and the cumulative third term GPAs; 6) the relationship between MSC Test of English Usage derived scores and cumulative MSC grade-point-averages of the two admissionee groups for the three terms of the freshman year; 7) the relationship

between MSC Arithmetic Proficiency Test derived scores and cumulative MSC grade-point-averages of the two admissionee groups for the three terms of the freshman year; 8) the relationship between MSC Reading Test derived total scores and cumulative MSC grade-point-averages of the two admissionee groups for the three terms of the freshman year; 9) the relationship between High School Class Rank and cumulative MSC grade-point-averages of the two admissionee groups for the three terms of the freshman year; 10) the relationship between the high school recommendation and cumulative MSC grade-point-averages of the two admissionee groups for the three terms of the freshman year; 11) the relationship between the Michigan State College counselor recommendations for the testing and counseling admissionees and cumulative MSC grade-point-averages for the three terms of the freshman year; 12) the relationship between the previous cumulative grade-point-averages and subsequently acquired cumulative grade-point-averages for the two admissionee groups; 13) the differences that exist between the two admissionee groups with respect to action of personnel groups - specifically the Counseling Center and the Office of the Dean of Basic College.

The cumulative grade-point-average utilized in the study was determined solely on the basis of courses taken at Michigan State College.

METHODOLOGY

The total sample consisted of 684 cases divided into three groups of 228 each and designated as the regulars, the borderline admissionees and the refusals. The 228 borderline admissionees represented the entire population of candidates admitted and actually enrolled Fall Quarter 1952 who had been processed through the individual testing and counseling program. The other two samples were randomizations of the respective populations making application for admission in 1952. Transfer students were not included in the sampling. The percentage of women in the regular sample was approximately the same as that found in the total freshman population. The number of women in the borderline and refusal samples was considerably less. Data from the application blanks was assembled on work sheets and tabulated manually.

The primary objective of the statistical calculations was to determine the relationship of the selected independent variables used in selection and admissions procedure with the cumulative grade-point-averages for the respective terms of the freshman year. The purpose of the reporting of frequency of various application procedures was to ascertain what differences or similarities, if any, existed among the three respective samples.

Analyses of the data could be criticized in certain respects. First, raw scores on the orientation tests were not utilized, but MSC derived scores instead. However, derived scores are used by personnel workers in their selection procedure and the statistical error has been found to be slight - the r between derived scores and raw scores has been reported by the Board of Examiners to be in excess of .96. Second, many investigations have shown the fallibility of grading and the cumulative grade-point-averages are based on this measure. Yet, it is on the basis of this GPA that a student is asked to leave, is graduated or is put on probation. Third, the probabilities and frequencies presented are based on group performance, and do not necessarily hold for individual prediction. Fourth, the measures of high school rank, high school recommendation and counselor recommendation were used in broad categories and were compared with the measure of the GPA which was reported to two decimal places.

Derived scores, such as were used in this investigation, become most meaningful for personnel functions at the extremes - 1, 2, and 3 on the lower end of the scale and 8, 9, and 10 on the upper end of the scale.

FINDINGS

On the basis of the investigation previously reported, the following findings are listed. Each of the three samples was studied independently and any comparisons made were non-statistical.

1. The percentage tables and findings reported in Chapter V (e.g. group compilations of personal factors, home factors, and secondary school factors) generally, point up the similarities rather than any striking differences among the three groups: refusals, borderline, and regulars.

2. The most striking difference among the groups was in the area of academic achievement at the secondary school level. The predominate position of the regular admissionees was in the top half of the graduating classes and the position of the T & Cs and refusals was in the lower half.

The variety of school programs followed was found to be as varied, practically, as the number of cases in the samples. However, it was clearly evident that academic preparation was predominant among the applicants for admission. The applicants in the regular sample had a greater record of participation in extra-curricular activities other than athletic than did those in the other samples.

3. In the selection of entering program of study at Michigan State College, the T & C group had over forty five percent enrolled as No Preference students. This was in contrast to about twenty five percent for the refusals and regular admissionees.

4. The most crucial finding in the analysis of application blank material for these three samples appears to be in the area of recommendations and the quality of these recommendations. It was readily apparent that many of the applications were processed by high school officials in a careless and indifferent manner.

When the recommendation material was classified in the three categories (complete, partially complete, very incomplete) over seventy percent of the applications of the refusal and borderline samples had to be classified in the latter two categories. This was true of about fifty percent of the applications for the regular sample. In the literature it was expressed by principals that they believe the colleges should accept their recommendations when considering applications from low achievers, yet the secondary school officials were found to be most lax in fulfilling their obligation of transmitting essential and vital information on the applicant in the lower group. The Michigan State College admissions officers seldom question the reliability of the secondary school recommendation, but this

would appear to be a very questionable procedure on the basis of the findings with these three sample groups.

5. The findings revealed a slightly higher percentage of the borderline sample were subjected to probationary action by the Office of the Dean of the Basic College than was the case with the regular sample. Data from the Counseling Center revealed that about fifty percent of each sample had taken advantage of the services offered by the Counseling Center. These contacts excluded those contacts involving just a change of major.

6. Correlations were obtained for the regular sample on the relationship between the individual factors of the orientation test battery and the cumulative grade-point-averages for the three terms of the freshman year. The correlations obtained for this sample, with the exception of the Q score of the ACE, ranged generally from about .45 to .50. These correlations are very similar to those reported in other investigations on prediction and selection and were found to be significant at the one percent level of confidence. In spite of the fact that attenuation exists in the sample which results in greater homogeneity and usually lower correlations, it was found that the majority of correlations continued to increase from term to term. This would seemingly render them useful for continued reference by personnel workers.

7. Correlations were obtained for the borderline sample on the relationship between the individual factors of the orientation test battery and the cumulative grade-point-averages for the three terms of the freshman year. The correlations obtained for this sample, with the exception of the Reading Test (.39) for the first term, generally ranged from about .20 to .30 (significant at the one percent level). These correlations were considerably lower than was usually found by other investigators generally (see Table II page 41), and in the present study for the random regular sample. There was a tendency for a decline in the relationship after the first term.

8. Correlations were obtained for the regular sample on the secondary school factors of rank and school officials recommendation in relation to cumulative grade-point-averages. A similar correlation (.45) to that obtained for the orientation test scores was found between high school rank, reported in quarters, and the cumulative grade-point-averages. For this sample the relationship found between high school recommendation ranged from about .20 to .25. It should be kept in mind that one of the variables in the correlation was a rough measure (four and three levels respectively for rank and recommendation) while the other variable was a refined measure to the hundreth decimal place.

9. Correlations were ascertained for the borderline sample on the secondary school variables of rank and recommendation in relation to cumulative grade-point-averages. Similar correlations (.20 to .25) to those obtained for the orientation test scores were found when referring to high school rank. Almost insignificant results were found in the correlational studies for this sample when relating the high school recommendation and the cumulative grade-point-averages for the three terms of the freshman year. In this sample, as in the other, the rough statistic feature of broad categories for rank and recommendation was also present.

10. Correlations were obtained for the borderline sample with respect to the relationship between the Michigan State College Counselor recommendations and the cumulative grade-point-averages. It was found that the relationship was .33 for the first term and increased to .58 for the second and third terms. These correlations took into consideration the attenuation factor which results in a more homogeneous group. This statistic was also affected by a rough estimate for one variable of the correlation and a refined measure for the other. It should be remembered that the counselors had test information other than the orientation battery. The orientation battery was the common element for all those that were admitted and actually enrolled.

11. Because of the rough measure in one of the variables, it was deemed advisable to establish percentage tables for the rank and recommendation factors. These were somewhat more revealing because more upper quarter students tended to be better achievers at the college level. Also, the recommendation picture was found to be a little more encouraging since about seventy percent of those receiving a "yes" recommendation and remaining in school through three terms maintained at least a 2.00 average for the freshman year. About fifty percent of those receiving a reserved recommendation maintained a 2.00 average. However, of those receiving a "no" recommendation in the borderline sample, more than fifty five percent achieved at or above the minimum passing standard. In the regular sample, two-thirds of those given a negative recommendation failed to make a 2.00 cumulative average, but the N for this group was very small.

When considering the percentage table for the counselor recommendations, it was found that eighty percent of the borderline admissionees receiving an enthusiastic recommendation achieved at or above the minimum 2.00 standard. This was true of about sixty percent of those receiving a moderate recommendation. Of those receiving a neutral recommendation, only about ten percent maintained the minimum acceptable standard of 2.00.

12. When the first term GPA was compared with the second term cumulative GPA and the second term cumulative GPA with the third term cumulative GPA, it was found for both samples that the correlation relationship was approximately .95.

CONCLUSIONS AND IMPLICATIONS FOR FURTHER RESEARCH

On the basis of the findings certain conclusions can be drawn and implications for further research indicated.

1. The assembling of data on the three groups revealed that the most striking group difference was in the area of academic achievement on the high school level. This was expected by definition of the samples, but it was anticipated that other differences might be pronounced. It emphasizes the point that admissions criteria are not absolutes, but rather, are guiding points for the admissions worker. This assembling of data emphasized the extensiveness of individual differences even though as groups they were quite similar. If the admissions officer can adopt the viewpoint that the entrance requirements ordinarily are neither a line of demarcation nor an average of acceptance, but rather a point of view from which the officer looks at any application, he may then be both objective and flexible.

2. The orientation tests as single measures were found to correlate positively and with moderate magnitude when used in reference to the regular sample. Correlations utilizing the derived scores were found to be similar to those found in other investigations using raw scores. The correlations obtained were found to increase for this sample when considering subsequent cumulative grade-point-averages, which leads to the conclusion that these scores can be used for subsequent counseling. The relationship was found to be of sufficiently low magnitude that the personnel worker needs to use caution when utilizing these measures and to use them in conjunction with all other criteria.

In contrast to these findings, the orientation tests as single measures were found to correlate positively but to a lesser degree for the borderline admissionee. In this case the correlations were found to decrease when correlated with subsequent cumulative grade-point-averages. This would give some indication that the borderline admissionee should be counseled in light of other circumstances than merely in direct comparison with the regular admissionee. It is possible that additional testing and counseling after a year of college attendance might be of value in counseling students of this type. There would seem to be evidence that further research on this problem is indicated.

3. The relationship between the eventual achievement of the borderline admissionee and the Michigan State College counselor recommendation was most encouraging and a continuation of this program appears in order. The accuracy in estimate and the expression of degree of enthusiasm in recommendation evinced by the counselor in each individual case was generally far superior to that made by the recommending high school officials. Using the orientation battery as a core and assigning individual measuring devices appropriate to each individual case appears justified. An implication for further research would be a comprehensive longitudinal case study approach with a borderline sample to ascertain more complete information than was obtained in this investigation.

4. The value of the orientation test scores for continued use as counseling tools when dealing with the borderline admissionee was found to be questionable due to the decreasing relationship. A careful study utilizing cutting scores appears in order to ascertain what degree of confidence should be placed in these scores for this group.

Because counselors, instructors and enrollment officers have access to the orientation test scores and utilize them when counseling with students it would appear desirable to designate the borderline admissionee as he presents a unique situation and should be regarded as atypical of the regular admissionee.

5. The value of the high school recommendation as reported for these samples is open to question. The correlations were found to be extremely low when compared with cumulative grade-point-averages. This was particularly true in reference to the borderline admissionee and it is here that high school principals, themselves, feel that their recommendations should be given the most consideration. From the data present in this study, the findings indicated carelessness and a lack of facing up to responsibility in the preparation of recommendations. The Michigan Secondary School-College Agreement Plan implies adequate and objective recommendation with a relaying of personal information to the college so that proper personnel techniques may operate on a continuum from the secondary school to the college.

It seems pertinent to recommend that a careful study of all recommendations from schools be conducted for objectivity and completeness if the admissions office is to continue to rely on the opinion of the secondary school officials. This would seem to be particularly in order for the College Agreement Schools.

6. No attempt was made at multiple correlation relationships in this study. The establishment of separate regression equations for the regular sample and the borderline sample might increase the predictibility of the measures

utilized when used in association with all other data about the candidate. A study on differential prediction is thus in order.

7. About twenty five percent of the entering enrollment each fall term is in the area of transfer students. These students were eliminated from this investigation. A study should be conducted to ascertain the similarities and differences this group presents in contrast to the data gathered on the refusals, regular admissionees and borderline admissionees.

8. If pre-admissions counseling is to be continued, and this appears to be thoroughly justified, a careful evaluation of subsequent contacts with personnel functions such as the Counseling Center, the Improvement Services, the office of the Dean of Students, the offices of the Deans of the various schools, and enrollment officer contacts should be made. Such a program would then reenforce the tenets under which a program of individualized admissions operates, in that the individual is the first consideration and the question to be answered would be "Is our program of personnel services meeting its obligation in seeing that the applicant is effectively assisted to attempt the course for which he is applying in Michigan State College?"

9. The study substantiated the generally accepted fact that many individual differences exist and when this fact is kept in mind the information requested on the application blank becomes most meaningful.

10. It must be concluded that the findings in this investigation are most applicable to Michigan State College and that any generalizations drawn in reference to other institutions should recognize the restrictions thus imposed.

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APPENDIX A

DO NOT FILL IN

:r..... Year.....

ulum.....

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ıt Number.....

Appr. sent.....

MICHIGAN STATE COLLEGE

EAST LANSING, MICHIGAN

APPLICATION FOR ADMISSION

Application should be submitted when your record is complete except for the final semester's grades

INSTRUCTIONS

Pages 1, 2, 3, and 4 of this blank are to be filled out by the applicant in ink; the entire blank is then to be referred to the principal of the high school from which the applicant graduated, who will fill out the remaining pages and forward the entire blank to the office of the Registrar. See pages 9 and 10 for General Information.

(PLEASE PRINT NAME)

1. Name in full..... (Last) (First) (Middle) ☐ Mr. ☐ Mrs. ☐ Miss Date .....

2. If you have used a different name while attending school, give name formerly used:

..... (Last) (First) (Middle)

3. Permanent home address..... (Number and Street) (City) (State) (Phone)

4. Mailing address..... (If different from home address) (Number and Street) (City) (State) (Last date you will be here)

5. (a) Birthplace.....Date of Birth..... Month Day Year Are you a U.S citizen?.....

(b) Are you a resident of Michigan? ☐ Yes—Number of months....., No ☐ *(See Out-of-State Fee Regulations, page 10)*

6. (a) Single....Married....Do you have children?....Number....Husband's or wife's full name.....

(b) Have you had experience in the Armed Forces? ☐ Yes ☐ No Total months in service.....Branch of Service.....

(c) *If you are a veteran, a copy of your separation record must be included. (Photostatic copy is acceptable)*

7. (a) Have you at any time applied for admission to Michigan State College or to any other college or university?..... If so, give name of the institution and full details of the outcome of your application.....

.....

(b) Have you attended any college or university since graduating from high school? ☐ Yes ☐ No

8. List in chronological order all high schools and colleges attended.

NAME OF INSTITUTION	CITY	STATE	ATTENDANCE DATES (Month and year)	DATE GRADUATED AND DEGREE, IF ANY
			from to	
			from to	
			from to	
			from to	
			from to	

Note: This application and other credentials become a part of the permanent files of the college and may not be returned.

9. Have you previously attended Michigan State College? ☐ Yes ☐ No When ..... Term Year ☐ Regular College Program ☐ Short Course ☐ Evening College ☐ Extension ☐ Armed Forces Program

10. When do you expect to enter Michigan State College? ☐ Fall ☐ Winter ☐ Spring ☐ Summer. Year.....

11a. (1) Father's full name:..... (Last) (First)

Address..... (If different from No. 3)

(2) Living?..... (3) Is he a U.S. citizen?.....

(4) Occupation.....

11b. (1) Mother's full name:..... (Last) (First)

Address..... (If different from No. 3)

(2) Living?..... (3) Is she a U.S. citizen?.....

(4) Occupation.....

12. If you have a legal guardian or foster-parents, give name.....

Address..... (Number and Street) (City and State) Relationship to you.....

(Print your name in space above.)

13. State in chronological order, including dates, your activities since graduation from high school. .....

.....

.....

14. Give names, addresses and occupations of at least two responsible adult persons as references (not former teachers or relatives).

..... (Name) ..... (Address) ..... (Occupation)

..... (Name) ..... (Address) ..... (Occupation)

15. What influenced you to consider M.S.C.? .....

16. This application is for (check one) ☐ Evening College Program ☐ Regular College Program

17. Do you expect to complete (check one) ☐ Bachelor's Degree ☐ 2 Yr. Terminal Course

18. Using information on Page 6, write major preference in this space. .....

(Do Not Write Below This Line)

Curriculum desired ..... ☐ Degree Curriculum ☐ Two Year Terminal

English ..... Speech ..... Journ. ..... Dramatics ..... _____

Latin ..... French ..... German ..... Spanish ..... _____

Algebra ..... Pl. Geom. ..... Sol. Geom. ..... Trig. ..... Other Math ..... _____

Physics ..... Chem. ..... Biology ..... Botany ..... Zool. ..... Geol. ..... Physiol. ..... Gen Sci. ..... _____

History ..... Econ. ..... Am. Govt. ..... Geog. ..... Sociol. ..... Civ. ..... Social Prob. ..... _____ _____ Units

Agricult. ..... Home Ec. ..... Com'l ..... Indust. ..... Music ..... Misc. ..... _____ _____ Total _____ Initials

Conditions or deficiencies .....

.....

Transcript(s) received from .....

.....

1. Approved pending final semester's grade ..... Date .....

   Final grades ok—Admission approved ..... Date .....

2. Admission approved ..... Date .....

3. Admission NOT approved ..... Date .....

Remarks:

FOR THE COUNSELOR

(To be completely filled out by the applicant.)

Name _____ Date of Birth _____
(Last Name) (First Name) (Middle Name) (Month) (Day) (Year)

Home address _____
(Number and Street) (City) (State) (Phone)

Single _____ Married _____ Do you have any children? _____ Number _____

1. (a) Father's name _____
Last First Middle

(b) Father's occupation _____

(c) Father's education (check if a graduate; otherwise give number of years in attendance):

Grade school ___ High school ___ College { M.S.C. _____ Dates / Other _____

(d) Mother's name _____
Last First Middle

(e) Mother's occupation (if wage earner) _____

(f) Mother's education, (check if a graduate; otherwise give number of years in attendance):

Grade school ___ High school ___ College { M.S.C. _____ Dates / Other _____

2. Give names and relationships of relatives who have attended M.S.C., including years of attendance _____

3. (a) Have you contributed toward your support while in high school? _____

Nature of employment _____ Approx. number of hours per week _____

(b) Have you been employed since graduation? _____ How long and at what work? _____

4. (a) In what subject do you expect to specialize in college? _____ Do you plan to teach? _____

(b) Name high school subjects you liked best _____

(c) List any particular honors, prizes, other special awards for scholarship obtained in high school _____

5. (a) Make a complete list of the sports and other extra-curricular school activities in which you participated in high school

(b) What special recognition, if any, have you received in any of these activities? _____

(c) Which, if any of these activities do you intend to continue in College? _____

6. What do you look forward to as a life work? _____

7. What are your plans for financing your college course during the first year? _____

8. If one year or more has passed since your graduation from high school, state whether or not and how your attitude towards higher education has changed _____

9. State condition of general health, naming any illness which may have handicapped you while in high school _____

10. Do you have periods of unconsciousness, convulsions, epilepsy, or fainting spells? _____

(To be completed by parent or guardian)

1. What do you want your son or daughter to achieve from a college education?

(To be completed by the applicant)

2. Please *write a short story of your life.* We suggest that you include why you want a college education, your travels or experiences, interests in sports, hobbies, or plans for the future. Please include a statement on any illnesses or physical disabilities. (This story of your life is to be entirely original and in your own handwriting. It will be used by counselors and admission officers only.)

Your Signature

CANDIDATE'S PERSONAL QUALIFICATIONS

(To be filled out by the high school counselor, principal, or superintendent.)

This sheet will be placed in the hands of the student's college Counselor and all information will be treated in a strictly confidential and professional manner.

1. Please indicate your judgement or the composite judgement of several of the applicant's teachers by placing check marks on the scale of ratings given below. Space is provided for additional characteristics which you consider important.

   If a rating on any trait is omitted, it will be understood that you do not have sufficient knowledge of the candidate to express judgement. Such omissions will not put the candidate at a disadvantage.

PERSONAL CHARACTERISTICS	Poor	Below Average	Average	Above Average	Superior	COMMENTS
Potential intellectual capacity						
Actual intellectual performance						
Seriousness of purpose						
Independence of effort						
Emotional stability						
Social adjustment						
Integrity						
Maturity related to age						
School citizenship						
Probable success in college						

2. Results on testing program:

DATE TAKEN	NAME AND FORM OF TEST	SCORE	INTERPRETATION

3. (a) Has the applicant any defect of speech, sight or hearing?_____

   (b) Is the applicant subject to periods of unconsciousness, convulsions, epilepsy, or fainting spells?_____

4. State any other defects or qualities which are not covered by the above_____

5. To what degree did the applicant's attitude toward scholastic work and application to academic subjects change during the last year or two in high school or since leaving high school?_____

CANDIDATE'S PERSONAL QUALIFICATIONS—Continued

6. Describe any particular circumstances of the candidate's environment, personality, or fortunes of life that may have been influential in determining the record made in high school.

7. Give any additional information which you think will be of value to us in understanding and guiding the candidate.

8. Comments or suggestions as to how the college can best help this student to succeed

Date _____ Signature _____ Title _____

TO BE FILLED IN BY THE SECONDARY SCHOO

All Information Will Be Handled in a C

1. **Student's name**..... (Last) (Fi
2. **Permanent home address**..... (Number and Street)
3. **Secondary School**..... (Name)

..... (City) (Zone)

4. (a) ☐ Public, ☐ Private (b) Accredited by.....
5. If a semester has elapsed since the applicant's graduation, has he
   If so, where?.....
6. (a) ☐ Was graduated ..... (Date); ☐ Will be graduat
7. (a) Number of students in class ..... (b) Approximate rank in
   (c) Passing mark in your school ..... Rank or mar
8. Academic record of *all subjects* taken whether passed or failed.

Leave Blank	SUBJECTS	Year Taken I - II - III - IV	No. of Weeks	MARKS	Unit Value
	English—First Year				
	Second Year				
	Third Year				
	Fourth Year				
	Foreign Languages				
	Algebra—First Year				
	Second Year				
	Geometry—Plane				
	Solid				
	Trigonometry				
	Biology				
	Chemistry				
	Physics				
	Social Studies				
	History—World				
	European				
	U.S.				
	American Gov't.				
	Economics				

RECOMMENDATION OF PRINCI

9. Principal or Superintendent please fill in and sign.

   (a) ☐ Recommended for admission clear.
   ☐ Recommended for admission under the provisions of the Michigan Secondary School-College Agreement.
   ☐ Recommended for admission under the following conditions .....
   .....
   ☐ Not recommended for admission.

.....

Date ..... Signature .....

PLEASE MAIL APPLICATION TO THE OFFICE OF

Note: Marked improvement during the junior and senior years and sometimes s is ready to undertake college work even though the total average may not

OW YOUR PRIMARY FIELD OF INTEREST AND WRITE
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SCHOOL OF SCIENCE AND ARTS

Division of Fine Arts:
Art
Applied Music
Fine Art *(Divisional Major)*
Music Major
Music Theory
Musical Therapy
Public School Music

Division of Language and Literature:
English
Foreign Languages — check one: ☐ French ☐ German ☐ Latin ☐ Spanish
Language and Literature *(Divisional Major)*
Speech, Dramatics, Radio and Television
Education

Division of Biological Science:
Bacteriology
Biological Science *(Divisional Major)*
Botany
Entomology
Physiology
Zoology

Nursing Education

Division of Mathematical and Physical Sciences:
Chemistry
Geology
Mathematics
Mathematical and Physical Science *(Divisional Major)*
Physics and Astronomy

Division of Social Science:
American Studies
Far Eastern and Asiatic Russian Area Study Program
Foreign Studies
Geography
History
Philosophy
Psychology
Social Science *(Divisional Major)*
Sociology and Anthropology

Pre-Professional:
Dental
Law *(Choose Major Field Also)*
Medical

SCHOOL OF VETERINARY MEDICINE
Pre-Veterinary Medicine
Veterinary Medicine
Medical Technology

RULES GOVERNING OUT-OF-STATE TUITION

By action of the State Board of Agriculture the following regulations concerning payment of the out-of-state tuition fee of $75.00 per quarter were approved September 18, 1947:

1. No one shall be deemed a resident of Michigan for the purpose of registering in Michigan State College unless he has resided in this State six months immediately preceding the date of his proposed enrollment.

2. No one may gain or lose a residence in this state while a student at the college.

3. The residence of minors shall follow that of their legal guardian *except* where guardianship has been established in this state obviously for the purpose of evading the fee.

4. Aliens who have taken out their first citizenship papers and have otherwise met the requirements for residence shall be considered as eligible for registration as residents of Michigan. (Those wishing exemption must furnish the Registrar with a photostatic copy of his first citizenship papers.)

5. The residence of any person, other than a legal guardian, who may furnish funds for payment of College fees shall in no way affect the residence of the student.

6. Students whose parents are not legal residents of Michigan but who own real estate in Michigan assessed on the tax rolls at $5,000 or more may be exempted from out-of-state fees. (Those wishing exemption on this basis must present a statement from the clerk of the county in which the property is located showing the assessed valuation.)

APPENDIX B

DO NOT FILL IN

er..... Year.....

:ulum .....

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nt Number.....

. Appr. Sent.....

MICHIGAN STATE COLLEGE

EAST LANSING, MICHIGAN

APPLICATION FOR ADMISSION

Application may be submitted after first semester of senior year's work is completed.

GENERAL INFORMATION

The *Basic College* has been established as an educational unit in which all students will be enrolled during their freshman and sophomore years.

The *Basic College* is designed to provide students with a sound educational foundation on which to build an intelligent interest in personal, family, vocational, social, and civic problems, a better understanding of these problems, and a greater ability to cope with them. It includes the study of man's relationship to physical, biological, and social sciences, an increased knowledge of the historical background of present-day civilizations, and an enhanced appreciation of cultures, past and present, that have been expressed in literature, music and art.

Students whose training may eventually become highly specialized need this foundation of general educational experience that each may have a greater appreciation of the relationship of his special field to the needs of society as a whole. Specialization for the Bachelor's degree is completed in the appropriate school. (For requirements for admission, see page 9.)

INSTRUCTIONS

Pages 1, 2, 3, and 6 of this blank are to be filled out by the applicant in ink; the entire blank is then to be referred to the principal of the high school from which the applicant graduated, who will fill out the remaining pages and forward the entire blank to the office of the Registrar.

1. **Name in full**..... (Last) (First) (Middle) ☐ Mr. ☐ Mrs. ☐ Miss **Date**.....

2. **Permanent home address**..... (Number and street) (City) (State)

3. **Mailing address**..... (If different from home address) (Street and number) (City) (State)

4. (a) **Birthplace**..... **Date of Birth**..... (Month) (Day) (Year) **Are you a U.S. citizen?**.....

   (b) Are you a resident of Michigan? ☐ Yes—Number of months....., ☐ No (See residence regulations, page 10)

5. (a) Single.....Married.....Do you have children?.....Number.....Husband's or wife's full name.....

   (b) Have you had experience in the Armed forces? ☐ Yes ☐ No Total months in service.....Branch of Service.....

   (c) Type of discharge.....Rank when discharged.....Entrance date.....Discharge date.....

6. **High School**..... (Name of High School) (Location) (Date of Graduation)

7. (a) Have you at any time applied for admission to any other college or university?.....If so, give name of institution and full details of the outcome of your application.....

   (b) Have you attended any college or university?..... If so, give name and location of the institution, time spent there, and reason for withdrawal.....

   (c) If you have attended another college, ask the registrar to send us a transcript of your record or a statement of honorable dismissal if no credit was earned.

   (d) Have you previously attended Michigan State College? ☐ Yes ☐ No When..... (Term Year) ☐ Regular College Program ☐ Short Course ☐ Extension ☐ Armed Forces Program

8. When do you expect to enter college? ☐ Fall ☐ Winter ☐ Spring ☐ Summer. Year.....

9a. (1) Father's full name: ..... (Last) (First) (Middle)

(2) Living?..... (3) Place of Birth.....

(4) Is he an American citizen?.....

(5) Occupation .....

9b. (1) Mother's full name: ..... (Last) (First) (Middle)

(2) Living?..... (3) Place of Birth.....

(4) Is she an American citizen?.....

(5) Occupation .....

9c. If you have a Legal Guardian or Step-parents, give name.....

Address ..... (Street and Number) (City and State) Relationship to you .....

(Print your name in space above.)

10. If you have worked since graduation from high school, state positions held and duration of each term of employment.....

11. Give names, addresses and occupations of at least two responsible adult persons (not your former school teachers or officers, or relatives) as references.....

12. What influences led you to come to this College?.....

13. Do you expect to complete
- ☐ requirements for Bachelor's degree? (Four-year course)
- ☐ the two-year terminal course only?
- ☐ the one-year terminal course only?

14. Check your preference (check one):

SCHOOL OF AGRICULTURE

- ☐ General Agriculture *(Agricultural Economics, Agriculture Extension, Animal Husbandry, Farm Crops, Poultry Husbandry, Rural Sociology and Anthropology, Soil Science, Pre-Theological.)*
- ☐ Agriculture Education *(Teaching)*
- ☐ Food Technology

Agricultural Engineering Series:
- ☐ Agriculture Mechanics
- ☐ Agricultural Engineering

Dairy Series:
- ☐ Dairy Production
- ☐ Dairy Manufactures

Forestry Series:
- ☐ Technical Forestry
- ☐ Housing and Lumber Merchandising

Horticultural Series:
- ☐ Floriculture
- ☐ Pomology
- ☐ Vegetable Production

Landscape Series:
- ☐ Landscape Architecture
- ☐ Urban Planning

SCHOOL OF BUSINESS AND PUBLIC SERVICE

Business Administration:
- ☐ Business Administration—degree curriculum
- ☐ Commercial Education *(Teaching)*
- ☐ 2 Yr. Terminal in General Business
- ☐ 2 Yr. Terminal in Insurance
- ☐ 2 Yr. Terminal in Retailing
- ☐ 2 Yr. Terminal in Secretarial Science
- ☐ 1 Yr. Terminal in Business
- ☐ Economics
- ☐ Hotel Administration
- ☐ Journalism
- ☐ Physical Education, Health and Recreation
- ☐ General Police Administration
- ☐ Police Science
- ☐ Political Science
- ☐ Public Administration
- ☐ Social Service

SCHOOL OF ENGINEERING

- ☐ Agricultural
- ☐ Chemical
- ☐ Civil
- ☐ Electrical
- ☐ Mechanical
- ☐ Metallurgical
- ☐ Sanitary

SCHOOL OF HOME ECONOMICS

- ☐ Child Development
- ☐ Clothing and Textiles
- ☐ Foods and Nutrition
- ☐ General
- ☐ Home Economics and Nursing
- ☐ Institution Administration
- ☐ Related Arts
- ☐ Home Economics Education *(Teaching)*
- ☐ 2 Yr. Terminal in Home Economics
- ☐ 2 Yr. Terminal in Food Supervision

SCHOOL OF SCIENCE AND ARTS
(Check Major Field)

Fine Arts:
- ☐ Art
- ☐ Applied Music
- ☐ Music Major
- ☐ Music Theory
- ☐ Musical Therapy
- ☐ Public School Music

Education:
- ☐ Early Childhood *(Teaching)*
- ☐ Special *(Exceptional Children Teaching)*
- ☐ Elementary *(Teaching)*
- ☐ Industrial Arts *(Teaching)*
- ☐ Secondary *(Teaching) (Check Major Field Also)*

Language and Literature:
- ☐ English
- ☐ Foreign Languages — check one: ☐ French ☐ German ☐ Latin ☐ Spanish
- ☐ Literature
- ☐ Speech, Dramatics and Radio

Biological Science:
- ☐ Bacteriology
- ☐ Botany
- ☐ Entomology
- ☐ Physiology
- ☐ Wildlife Management and Fisheries
- ☐ Zoology

SCHOOL OF SCIENCE AND ARTS (Continued)
(Check Major Field)

Physical Science:
- ☐ Chemistry
- ☐ Geography
- ☐ Geology
- ☐ Mathematics
- ☐ Physics and Astronomy

Social Science:
- ☐ Foreign Studies
- ☐ History
- ☐ Philosophy
- ☐ Psychology
- ☐ Sociology

Pre-Professional:
- ☐ Dental
- ☐ Law
- ☐ Medical

SCHOOL OF VETERINARY MEDICINE
- ☐ Veterinary Medicine
- ☐ Medical Technology

BASIC COLLEGE
- ☐ No Preference *(Undecided on Major)*

IMPORTANT

Write your name on the back of a small unmounted photograph or snapshot of yourself and attach here. Pictures will not be returned.

Application will be considered incomplete if photograph is omitted.

THIS IS REQUIRED OF EVERY APPLICANT

FOR COUNSELOR

(To be completely filled out by the applicant.)

Name ..... Date of Birth .....
(Last Name) (First Name) (Middle Name) (Month) (Day) (Year)

Home address .....

Single ..... Married ..... Do you have any children? ..... Number .....

1. (a) Father's name .....
Last First Middle

(b) Father's occupation .....

(c) Father's education (check if a graduate; otherwise give number of years in attendance):

Grade school ..... High school ..... College { M.S.C. ..... Other .....

(d) Mother's name .....
Last First Middle

(e) Mother's occupation (if wage earner) .....

(f) Mother's education, (check if a graduate; otherwise give number of years in attendance):

Grade school ..... High school ..... College { M.S.C. ..... Other .....

2. Give names and relationships of relatives who have attended M.S.C., including years of attendance .....

(Confidential)

CANDIDATE'S PERSONAL QUALIFICATIONS

(To be filled out by the high school counselor, principal, or superintendent.)
This sheet will be placed in the hands of the student's college Counselor.

1. To the high school official:

   (a) Please indicate your judgment of the candidate by placing check marks on the scale of ratings given below.

   (b) If a rating on any trait is omitted, it will be understood that you do not have sufficient knowledge of the candidate to express judgment. Such omissions will not put the candidate at a disadvantage.

Trait	Very low	Low	Average	Fairly high	High	Very high
Potential intellectual capacity						
Actual intellectual performance						
Seriousness of purpose						
Originality						
Tractability						
Social-mindedness						
Independence of effort						
Popularity						

2. If candidate took tests, please give:

Name of Test	Date Given	Percentile	Norm Group	Remarks

3. General rank in class (check one): (Best 25%)_____(Second 25%)_____(Third 25%)_____(Poorest 25%)_____

4. (a) Has the applicant any defect of speech, sight or hearing?_____

   (b) Is the applicant subject to periods of unconsciousness, convulsions, epilepsy, or fainting spells?_____

5. State any other defects or qualities which are not covered by above_____

6. To what degree did the candidate's attitude towards scholastic work and application to academic subjects change during the last year or two in high school?_____

7. Describe any particular circumstances of the candidate's environment, personality, or fortunes of life that may have been influential in determining the record made in high school_____

8. Give any additional information which you think will be of value to us in understanding and guiding the candidate_____

Date _____ Signature _____ Title _____

(To be completed by applicant)

On this page, please *write a short story of your life.* We suggest that you include why you want a college education, your travels or experiences, interests in sports, hobbies, or plans for the future. Please include a statement on any illnesses or physical disabilities. (This story of your life is to be entirely original and in your own handwriting. It will be used by counselors and admission officers only.)

Your Signature

HIGH SCHOOL RECORD AND CERTIFICATE OF RECOMMENDATION

(Confidential)

Do not mail application to Registrar's Office until 12 B grades are recorded. Please make certain page 4 has also been completed.

1. High School..... Located at .....

2. By what recognized accrediting associations is your school accredited?.....

3. Student's name..... (Last) (First) (Middle)

4. Date of graduation..... from (check one) ☐ College Preparatory Course ☐ Michigan Special Program under "College Agreement Plan" ☐ Non-college Preparatory Course

5. (a) Years in attendance.....

(b) Names of and years in attendance at other high schools, if any, which candidate attended and from which credits were accepted

.....

.....

6. Has a statement of the applicant's credits been submitted to any other college or university?..... If so, when and to what school?

.....

7. If candidate took tests, please give: (If given in page 4, omit here)

Name of Test	Date Given	Percentile	Norm Group	Remarks

8. (a) Number in candidate's graduation class..... (b) Applicant's rank in class (e.g.—highest, 1; second highest, 2).....

(c) General rank in class (check one): (Best 25%)..... (Second 25%)..... (Third 25%)..... (Poorest 25%).....

9. Check the group under which you think the scholastic record of the applicant may be expected to fall:

☐ Excellent ☐ Superior ☐ Average ☐ Inferior ☐ Probable Failure

10. Grade average or rank required for recommendation to College.....

11. Principal or Superintendent please check and sign the following:

I hereby certify that the following transcript is a true copy of the applicant's record

and (check one) ☐ 1.) do officially recommend admission to Michigan State College as checked: ☐ Clear. ☐ With examinations.
☐ 2.) do not officially recommend admission to Michigan State College.

Date.....

.....
Principal or Superintendent

Note: Marked improvement during the junior and senior years and sometimes a great enough improvement in the senior year may indicate that a pupil is ready to undertake college work even though the total average may not meet the standard required for clear recommendation to college.

Studen

Unit Value

☐ Degree Curriculum
☐ Two Year Terminal
☐ One Year Terminal

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Date

Date

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131, 132, 133) at M.S.C.

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Date.....

Note:

RESIDENCE REGULATIONS

1. No one shall be deemed a resident of Michigan for the purpose of registering in Michigan State College unless he has resided in this State six months immediately preceding the date of his proposed enrollment.

2. No one may gain or lose a residence in this state while a student at the College.

3. The residence of minors shall follow that of their legal guardian *except* where guardianship has been established in this state obviously for the purpose of evading the fee.

4. Aliens who have taken out their first citizenship papers and have otherwise met the requirements for residence shall be considered as eligible for registration as residents of Michigan.

5. The residence of any person, other than a legal guardian, who may furnish funds for payment of College fees shall in no way affect the residence of the student.

6. Students whose parents are not legal residents of Michigan but who own real estate in Michigan assessed on the tax rolls at $5,000 or more may be exempted from out-of-state fees. (Those wishing exemption on this basis must present a statement from the clerk of the county in which the property is located showing the assessed valuation.)