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CHARACTERISTICS AND PREDICTION OF SUCCESS OF MINORITY MATRICULANTS IN THE STATE UNIVERSITY OF NEW YORK, AGRICULTURAL AND TECHNICAL COLLEGES EDUCATIONAL OPPORTUNITY PROGRAM, 1979, 1980, AND 1981 ENTERING CLASSES

By

Billy Carl Hawkins

AN ABSTRACT OF A DISSERTATION

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ABSTRACT

CHARACTERISTICS AND PREDICTION OF SUCCESS OF MINORITY MATRICULANTS IN THE STATE UNIVERSITY OF NEW YORK, AGRICULTURAL AND TECHNICAL COLLEGES EDUCATIONAL OPPORTUNITY PROGRAM, 1979, 1980, AND 1981 ENTERING CLASSES

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The purpose of this study was to identify selected characteristics which impact on the prediction of performance of minority matriculants to the State Universty of New York Agricultural and Technical Colleges' Educational Opportunity Programs; and to aid in the college's administrative oversight. The population included 99 subjects admitted in 1979, 104 in 1980, and 84 in 1981. The ethnic breakdown of the population consisted of 231 Blacks, 45 Spanish surname, and 11 Native Americans.

The data were collected by visits to campuses and by receipt of information from EOP directors and other offices. Central Administration for SUNY verified enrollment information. Yearly reports and academic records were analyzed for predictor variables and performance of the minority matriculants. The data were analyzed by employing the chi-square test and t-test, to see if the variables are related to academic success of these students. Also, selected variables were examined using multiple regression analysis.

The analysis of the data resulted in the following findings:

1. There were very few successful minority disadvantaged students.
2. Spanish surname students experienced greater success than other groups.
3. High school grade point average was a positive indicator for academic success.
4. College major showed a positive relationship in academic success.
5. Use of EOP admissions interview showed a significant relationship in academic success.
6. Geographical area, sex, age, units of high school mathematics and science, Scholastic Aptitude Test mathematics/verbal, type of high school diploma, and years between high school and college, were not significant.
7. The best model that was found to predict college grade point average from relevant variables was still so poor as to be impractical.

Based on the findings of the study, it was recommended that the State University system review all of its special programs for these students; that students in these programs receive academic advisement from college personnel familiar with their backgrounds; that there be increased remediation for students before they enter college; that recruitment efforts identify students who have the

best chance of academic success, and that applicants participate in a personal interview process; that Educational Opportunity Programs be strengthened; that more should be done to retain and graduate students in these programs; that the Central Administration hold individual college programs more accountable; that existing programs could be better managed; and that colleges consider constructing specialized curriculums for students in these programs.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION AND STATEMENT OF THE PROBLEM

Introduction and Background of the Problem

This study investigated those selected characteristics which impact on the prediction of academic success and the performance of Black, Spanish surname, and Native American, matriculants in the State University of New York Agricultural and Technical Colleges' Educational Opportunity Programs, for the 1979, 1980, and 1981 entering classes. Scholastic achievement, as measured by high school grades and standardized tests, traditionally have been used as predictors of future academic success. Scholastic achievement, as a predictor of academic success, has been assumed to be the most accurate indicator of inborn intellectual ability. There has been constant dilemma as to whether compensatory education programs have a positive effect on one's scholastic ability. Green and Gifford (1980) indicate that the use of standardized tests can be unfair under certain conditions. Such tests may have inherent bias, when in fact they should have none in order to be fair. Many scholars have challenged the fact that IQ and scholastic achievement can be increased with the help of support programs. Jensen (1980) contends that minorities have not performed well on standardized tests, when compared with their white counterparts, and may be limited by genetic factors.

Contrary to the findings of Jensen and others, recent results of special programs at American colleges strongly challenge the conclusion that scholastic achievement cannot be increased.

In the early 1960s, institutions of higher education began admission programs directed toward the objective of attracting more diverse students. These students in previous years may have been denied admission to college because of a variety of factors which may have included socio-economic status, ethnicity, sub-standard elementary and secondary educational preparation, low academic achievement, or low standardized test scores (Gordon, 1975). This initiative was, at least in part, a consequence of the civil rights movement, and the emphasis on equality of educational opportunity legislated by the government. For many colleges the need to recruit and increase their minority student enrollments became a priority. The burgeoning federally funded financial aid programs and the heightened awareness for ethnic diversity on campuses may have contributed to this initiative. A sense of responsibility and humanitarian concerns may have been catalysts for such action.

There were a variety of social concerns which may have led to a heightened awareness of the need for greater access to education for minority disadvantaged students. The assassination of civil rights leader Martin Luther King, Jr. may have galvinized some American institutions into giving greater consideration to the need to actively recruit and admit high risk, and under-prepared students. In fact, efforts by colleges in New York state followed

this event in the late 1960s. More importantly, legislation was approved in New York state establishing programs to provide necessary educational opportunities for students who had not been able to gain admission to college in traditional fashion.

In the past, college admisson officers had not accepted students who earned low grades in high school and who obtained low scores on standardized achievement tests. It was assumed these students would be unable to sufficiently increase and improve their scholastic achievement so as to be competitive in the collegiate environment (Allen, 1976). Historically, few disadvantaged students applied to enter college. Professional and graduate schools, therefore, also had, and still have, particularly low ethnic representation. The birth of Educational Opportunity Programs and similar programs in the middle 1960s, helped open the doors of higher education for a great many disadvantaged students. Admission staffs, as a result, have been challenged to identify and admit disadvantaged students who show potential for college success. It is a fundamental contention and organizing principle of this study that the review of students' high school transcripts and standardized test scores is not sufficient to predict academic success of disadvantaged students. There is a great need for improving and expanding the diversity and number of predictor variables. Colleges could do more harm than good to disadvantaged students if proper screening and predictor tools are not identified and used. Several devices for this purpose are currently used (i.e. interviews, recommendations, and basic skills testing).

In spite of conflicts which may exist within the general college admissions community (i.e. special needs programs being viewed as "quota filling" Mohr, 1981) the need to identify effective variables that will predict academic success remains. These variables may then be used to offset the concern by many educators that the level of enrollment by disadvantaged minority students be improved.

In addition, the possible expansion of the number of predictor variables used to evaluate a student for admissions could also have side benefits in illustrating other needs of the student. These needs could very well fall within the areas of student social and academic support, thus affecting the work of other college offices.

Knowles (1976) indicates that in 1966 a goal of colleges was single focused, their quest was to increase the enrollment of Blacks. There is evidence of that attitude changing, but continuing today. For example, most reports on programs providing educational opportunities for disadvantaged minority students focus on positive results in terms of student access, while commenting little on the academic success of those students.

Harvard University has had a risk-gamble program for disadvantaged students for at least 20 years. Egerton (1968) writes, that on the whole, the risk-gamble students have performed nearly as well as Harvard's other undergraduates (80-85 percent have graduated with their class). Ranked 400 to 500 points below many of their classmates on the Scholastic Apptitude Test, they have

generally remained competitive with their peers. Harvard's experience indicates that such a prestigious college may have more latitude in choosing students than most of its sister institutions have yet been willing to exercise. Other colleges altered admission methods with success (i.e. Cornell University, Stanford University, University of California, Morgan State College, Princeton University, and University of Michigan). Michigan State University, in 1963, altered admissions standards to admit 64 students in the "Detroit Project." The students admitted were academically marginal black students from the inner city of Detroit. The students selected were severely disadvantaged academically and financially. There were other colleges that took steps to alter high admissions criteria to admit greater numbers of disadvantaged students.

In New York state a Pre-baccalaureate Program was initiated in 1965 at City College of the City University. This was the precursor of the publicly supported compensatory education programs in New York state. The Pre-baccalaureate Program placed emphasis on the education of the disadvantaged student and focused on those factors which hampered academic success. The program marked a period of philosophical change in higher education in New York state. This program helped open the admissions doors of public institutions to the disadvantaged student in New York state.

The Problem

Compensatory education programs have been developed for a variety of reasons to meet the needs of the disadvantaged student. There also has been an increase in applications from minority disadvantaged students because of special admissions programs. Admission increases alone may not be sufficient to correct the problem of minority access to college. The dilemma is much more complex. Attempts must be made to insure the admission of the disadvantaged students who show the greatest potential for success. Once these students have been admitted to a college, a further commitment must be made to retain and graduate them. Knowles (1976) mentions that managing an EOP is becoming a centralized issue. Administrators are being asked to substantiate their budget requests, report on student performance, and to evaluate the level of services provided to students. If the disadvantaged student is to be successful, it appears more must be done. The challenge to strengthen existing programs by managing EOPs for performance must be met. The task is difficult and complex.

Contributing to this complexity is the fact that the minority disadvantaged applicants have been educationally and socio-economically deprived before pursuing higher education. If admitted, most are generally not prepared for the rigorous curriculum ahead.

This study will focus on the State University of New York's Agricultural and Technical Colleges' Educational Opportunity

Programs. The agricultural and technical colleges are located in rural areas mainly in Upstate New York. The schools prepare individuals either for transfer to four-year institutions or to find employment as technicians, skilled workers and practitioners in a variety of applied areas. This study will investigate the success of minority disadvantaged matriculants who entered the agricultural and technical colleges' Educational Opportunity Programs in 1979, 1980 and 1981. The purpose will be to:

> Identify those selected characteristics which impact on the prediction of academic success and performance of disadvantaged minority students, and to aid in the possible improvement of colleges' admissions, administrative, and guidance practices.

Once a disadvantaged minority student is admitted to college, there is evidence that the greatest challenge -- that of successful completion of a chosen field of study -- still lies ahead. Miller (1976), writes that if the disadvantaged student is to succeed, changes must come from within the college. Further, the institution must make some changes in curriculum and methods to accomodate the non-traditional student.

Perry and Tucker (1981), note that there has been controversy as to what to do with the non-traditional student. They feel institutions that offer admissions to disadvantaged students may elect to let that student survive as best as he or she can, or help that student make it through the system successfully.

"If we are to move beyond access for all, toward education for each, we are going to have to redesign education so that

individuals are offered maximum opportunities for growth and learning (Cross, 1979)." In addition, Perry and Tucker (1981) write that bringing about change in an educational institution can effect the majority of individuals associated with the institution. Further, desire, dedication and flexibility must permeate all corners, or else it becomes another form of tokenism.

Significance of the Study

The Educational Opportunity Programs of the State University of New York have made a significant impact on the campuses across the state. Opportunity programs in New York state have opened doors for both the disadvantaged and non-disadvantaged minority students. They have played an important role in increasing the representation of minority students in the colleges. In 1980-81 the number of Black and Hispanic students served by opportunity programs was more than 26,000, reflecting an increase of six percent during a seven-year period. The enrollment in opportunity programs has increased from more than 2,000 students served in City University's SEEK and College Discovery Programs in 1966-67 to more than 35,000 students at public and independent colleges in 1981-82. Presently, approximately one-quarter of all full-time undergraduate minority students in the state are in college because of these programs.

Many of these students are enrolled in the Agricultural and Technical Colleges of the State University of New York, which are predominatly white colleges located in very rural areas in Upstate New York.

Dr. Clifton R. Wharton, Jr. (1984), Chancellor of the State University of New York, which is the largest university system in the world, indicates:

> "The programs of the six agricultural and technical colleges of SUNY prepare individuals either for transfer to four-year institutions or to enter the world of work as technicians, skilled workers and practitioners in a variety of applied areas. Special emphasis is placed on technical studies leading to careers in Agricultural, Business, Industry and Human Service fields. The colleges offer a variety of two-year degrees--the Associate in Arts (AA) and Associate in Science (AS) designed primarily for transfer programs which lead respectively to the Bachelor of Arts and Bachelor of Science, and the Associate in Applied Science (AAS) for curricula which prepare students for entrance into occupations after two years. A number of one-year certificates are available, as well as specially-designed short-term programs.
>
> "The Agricultural and Technical Colleges also have a vital role to play in today's technological development efforts and the war on hunger."

The philosophy and the uniqueness of the two-year agricultural and technical colleges in SUNY is what attracts students from many backgrounds to these schools. The development of the educational programs in SUNY has brought an increase in minority student applicants, both disadvantaged and non-disadvantaged. The disadvantaged minority students come to these campuses, in many instances, from the inner city with little insight on how to adjust to their new environment. These students have a wide range of abilities, educational desires, and differing potentials. Therefore, with minority disadvantaged student enrollments increasing, pressure is added to the college's responsibility to help insure the success of these students. There are strong implications that knowledge about ethnic minorities is of major

concern to the nation's college and university leaders, and to others doing research analyzing the college population.

There has been little research done on the Educational Opportunity Program in SUNY. This researcher believes colleges must accept those disadvantaged minority students who show the greatest potential for success and have a responsibility to insure the students' success.

Study Purpose and Methodology

The primary purpose of this study is to investigate selected characteristics which bear on the prediction of academic success and the performance of minority disadvantaged matriculants in the SUNY Agricultural and Technical Colleges Educational Opportunity Programs. It is a challenge to determine academic success when working with a student population that originates from diverse backgrounds.

Osandar (1974), writes that it is advantageous for such institutions to provide guidance and data to support the view that a disadvantaged student can achieve and profit from his or her experience. He adds that there is little doubt that if nontraditional students are to be served by institutions of higher education, the onus is on the institution to adapt to meet the needs. Educational institutions already are privy to certain biographical and historical data about students. There is evidence that more may be needed if disadvantaged minority students are to be successful. This is important in order for programs to be developed to direct students toward successful college

completion, and to minimize the loss of human resources through failure. The institutional climate must have a priority of student first, and the institution second (Cross, 1974). As the minority disadvantaged student population increases at the agricultural and technical colleges, better predictors should be identified because these colleges will be held accountable for the "promise" of success with these students.

The population for this study consists of minority disadvantaged students from the agricultural and technical colleges at Alfred, Canton, Cobleskill, Delhi, and Morrisville. This study examines the following variables: geographic area, ethnicity, sex, age, high school grade point average (GPA), units of high school mathematics and science, Scholastic Aptitude Test scores (mathematics and verbal), type of diploma, college major, years between high school completion and college admission, and student interview. All students were in the colleges' Educational Opportunity Programs during the years of 1979, 1980, and 1981.

The population -- 287 students total -- included 99 from 1979, 104 from 1980, 84 from 1981. Each member of the population will be evaluated and placed into one of two groups. The groups are successful minorities or unsuccessful minorities.

The objective and subjective variables described earlier will be used to take cognizance of the students of each group in an effort to arrive at ascertained predictors for academic success.

This study will employ three research techniques. Chi-square and t-test will be used to analyze the variables as they pertain

to each group. Multiple regression analysis will be used to determine which variables best predict college grade point average.

The following hypotheses will be used to address the concerns of the success of the minority disadvantaged student:

1_a There will be no relationship between geographic area and academic success of minority disadvantaged students in the program.

1_b There will be a relationship between geographic area and academic success of minority disadvantaged students in the program.

2_a There will be no relationship between ethnicity and academic success of minority disadvantaged students in the program.

2_b There will be a relationship between ethnicity and academic success of minority disadvantaged students in the program.

3_a There will be no relationship between sex and academic success of minority disadvantaged students in the program.

3_b There will be a relationship between sex and academic success of minority disadvantaged students in the program.

4_a There will be no relationship between age and academic success of minority disadvantaged students in the program.

4_b There will be a relationship between age and academic success of minority disadvantaged students in the program.

5_a There will be no relationship between high school grade point average and academic success of minority disadvantaged students in the program.

5_b There will be a relationship between high school grade point average and academic success of minority disadvantaged students in the program.

6_a There will be no relationship between the number of units of high school mathematics and academic success of minority disadvantaged students in the program.

6_b There will be a relationship between the number of units of high school mathematics and academic success of minority disadvantaged students in the program.

7_a There will be no relationship between the number of units of high school science and academic success of minority disadvantaged students in the program.

7_b There will be a relationship between the number of units of high school science and academic success of minority disadvantaged students in the program.

8_a There will be no relationship between Scholastic Aptitude Test mathematics scores and academic success of minority disadvantaged students in the program.

8_b There will be a relationship between Scholastic Aptitude Test mathematics scores and academic success of minority disadvantaged students in the program.

9_a There will be no relationship between Scholastic Aptitude Test verbal scores and academic success of minority disadvantaged students in the program.

9_b There will be a relationship between Scholastic Aptitude Test verbal scores and academic success of minority disadvantaged students in the program.

10_a There will be no relationship between type of high school diploma and academic success of minority disadvantaged students in the program.

10_b There will be a relationship between type of high school diploma and academic success of minority disadvantaged students in the program.

11_a There will be no relationship between college major and academic success of minority disadvantaged students in the program.

11_b There will be a relationship between college major and academic success of minority disadvantaged students in the program.

12_a There will be no relationship between years between high school and college and academic success of minority disadvantaged students in the program.

12_b There will be a relationship between years between high school and college and academic success of minority disadvantaged students in the program.

13_a There will be no relationship between students interviewed and academic success of minority disadvantaged students in the program.

13_b There will be a relationship between students interviewed and academic success of minority disadvantaged students in the program.

Limitations of the Study

While this study focuses on the academic circumstances of three minority disadvantaged groups (Blacks, Spanish surname, and Native Americans) with regard to success and performance, the majority of the study subjects are Black. There is limited research literature available on the other two groups, hence, literature on Black Americans will serve as the reference point for general statements made in regard to minority disadvantaged students.

The State University of New York has six Agricultural and Technical Colleges (Alfred, Canton, Cobleskill, Delhi, Farmingdale, and Morrisville) all of which are two-year residential colleges. Five of these colleges have definite similarities in enrollment, geographical area, environment, and curriculum. Farmingdale Agricultural and Technical College is located downstate on Long Island 30 miles from New York City. Farmingdale enrolls over 6,000 full-time and 8,000 part-time students. These data double the combined size of the other five colleges. Being located close to New York City, which has a population of approximately eight million people has a significant impact on the college's enrollment and operation. In its beginning, the college offered four-year degrees, then in the 1930's the philosophy changed and two-year degrees were granted. Presently, the university is reconsidering granting four-year degrees in certain curricula. Farmingdale's Educational Opportunity Program is twice the size of the other five institutions' programs. Its program size is most appropriately compared to the four-year colleges.

For the three years being investigated in this study, Farmingdales' minority disadvantaged student population was larger than the study sample. For these reasons of disproportionate comparison, Farmingdale Agricultural and Technical College will be excluded from this study.

The recommendations and conclusions reached by this researcher can serve only as guidelines for future recruitment, admission, educational support programs, and counseling of disadvantaged minority students.

Definition of Terms

The following are definitions of the terms used in this study.

Academic Success: This defines a student who has completed at least one semester with a minimum of 12 hours with a GPA of 2.0 (C) or better.

Minority Disadvantaged Student: This is used to refer to Black, Spanish surname, and Native Americans who are financially and educationally deprived.

Educational Opportunity Program (EOP): The State University of New York describes this as a way for capable students from New York state who have not reached their academic potential because of limited financial resources and inadequate academic preparation to receive a college education.

Compensatory Education: This refers to efforts to reduce or eliminate the adverse effects social and economic conditions have on applicants who are not fully qualified to enter college.

Agricultural and Technical College: These are the agricultural and technical colleges in SUNY. These residential institutions offer a variety of career oriented associate degree programs in liberal arts, agriculture, and the technologies, and some one-year occupational programs.

State University of New York (SUNY): A network of 64 individual institutions located in every region of the state and recognized as the largest university system in the world.

College: This is used in a generic sense to represent all types of institutions of higher education, and is not meant to represent only a college of a university.

Outline of the Study

Chapter II will review related research to the conceptual framework and development of the agricultural and technical colleges in New York state, and compensatory education in New York state. Recruitment, admissions practices and studies, and retention of minority disadvantaged students are also reviewed.

Chapter III contains a discussion of the study design and methodology employed in this study.

Chapter IV presents and analyzes study findings.

Chapter V offers conclusions and recommendations based on these findings and suggests possible further research.

CHAPTER II

REVIEW OF RELATED LITERATURE AND STATE UNIVERSITY OF NEW YORK AGRICULTURAL AND TECHNICAL COLLEGES' EDUCATIONAL OPPORTUNITY PROGRAMS

Introduction

Movements toward equal opportunity in higher education date back to the Morrill Act of 1862, which laid the foundation for the development of land grant colleges. Prior to the civil rights movement and President Lyndon B. Johnson's War on Poverty in the early 1960's, political groups and educators paid little attention and interest to the development and growth of the disadvantaged (Ornstein, 1983). In Brown vs. Board of Education, the U.S. Supreme Court declared that "the opportunity of education is a right which must be made available to all on equal terms." Cole (1983), indicates this right is unclear in the 1980's at the federal level. He further states that confusion is manifested by antibusing legislation, severe budget cuts in education and student assistance, tuition tax credit proposals, granting tax-exempt status to schools which discriminate, exemption of schools from civil rights regulations, revision of affirmative action requirements, and the diminuation of enforcement of equal access to quality education. Yet, a review of research on the topic shows

that today, most members of America's most visible minorities (Blacks, Spanish surname, Native Americans) struggle to succeed and survive within the educational system.

Colleges are apprehensive about admitting disadvantaged students. However, as programs to increase disadvantaged minority enrollment evolve, there appears to be a need to make additional assistance, in many forms, available to these students, who have academic deficiencies. The increase of disadvantaged minority students in higher education highlights the need to move institutional adjustment from minimal to maximal established routine, with the belief that all students will succeed, regardless of how long it takes or the degree of effort expended by the institution to insure the students success (Perry and Tucker, 1981). Further, study done on the predictions of college success for low-income students, points to some important factors. Rovezzi and Thompson (1980), state that the Scholastic Aptitude Test, verbal and mathematics sections, rank in high school class and income were not effective predictors of college graduation. The authors concluded that future research should investigate the interaction of both preparatory and intervening variables.

This chapter addresses the conceptual framework and development of the agricultural and technical colleges in New York state, compensatory education in New York state, recruitment, admissions practices and studies, retention, State University of New York Agricultural and Technical Colleges' Educational Opportunity Programs, and the prediction of academic performance and success,

by reviewing literature related to the minority disadvantaged students in higher education.

The Conceptual Framework and Development of the Agricultural and Technical Colleges in New York State

Development of Agricultural Education in New York State

In 1864, New York state became the only state to designate a private college as the recipient of its Federal Land Grant. People's College was the recipient, but due to its closing the grant was transfered to Cornell University.

> "The organizational framework of Cornell University was a combination of the influences represented in the long effort of the State Agricultural Society to establish an agricultural college. The university was required to annually accept one student from each of the 128 Assembly Districts in the state who were free from all tuition, fees or incidental charges. Later this number was increased to four students from each of the 150 districts (True, 1969)."

True adds that the agricultural societies helped foster a positive public and political attitude toward agricultural education, nationally and in New York state. Passage of the Morrill Act and Hatch Act illustrate the favorable attitude that emerged and was carried into the 20th Century.

Barlow (1967), indicates, "that the leading object shall be without excluding other scientific and classical studies ... to teach such branches of learning as are related to agriculture and the mechanic arts ... in order to promote the liberal and

practical education of the industrial classes in the several pursuits and professions in life."

Development of State University of New York Agricultural and Technical Colleges

The period 1906 to 1916 saw the establishment of the six two-year agricultural and technical colleges in New York state: Canton in 1906, Alfred and Morrisville in 1908, Delhi in 1913, and Cobleskill and Farmingdale in 1916. These institutions were established for a variety of reasons. These include:

1. The desirability of a practical education:
   "Of more immediate concern to the citizens of Delhi was the fact that beyond the elementary grade, the schools of that day were not meeting the needs of many of the young people, or were educating them away from the farm. High schools offered traditional college preparatory courses, but nothing of a practical nature," (Smith, 1970).
2. That many students desiring an agricultural education could not afford to attend Cornell:
   "In the final showdown the idea of the proposed schools of agriculture scattered throughout the state sounded more practical as a means of training young men how to farm than the single college at Cornell. It was expected that the yearly cost per pupil would be lower in a state school such as Morrisville than at Cornell" (Houghton, 1967).

3. Farmland was being abandoned on the premise that New York state land was exhausted:

   Studies conducted by the United States Bureau of Soils indicated that there is no justification in the belief that soils of the eastern states are permanently or have materially decreased in their productive possibilities (Houghton, 1967).

4. Rising food costs and the ability of the nation to feed itself in the future:

   First Steward promoted and stuck to his plan for a state school of agriculture at Morrisville, as a model to put before the people of New York state, and in fact the entire United States. He proposed an educational plan to increase agricultural production. One of the main reasons the voters of New York state backed the idea of more and better agricultural education was the expectation of more food at lower prices (Houghton, 1967).

The early years of these schools were riddled with appropriation problems, construction delays, legislative trouble and a general shortage of staff and materials, according to unpublished research (Angerosa, 1982).

Angerosa further wrote that from 1906 to 1916 all of the schools grew. From 1917 to 1929, the schools were affected by World War I. During this period, two federal acts helped maintain the struggling state schools of agriculture. The first was the Smith Hughes Act of 1917, which provided aid for teachers of

agriculture. The other was the Vocational Rehabilitation Act of 1918, which provided funds for disabled war veterans who wanted to attend college.

From 1930 to 1940 a decline in enrollment occurred due to post-war depression. "In 1931, the Governor's Agricultural Advisory Commission appointed a special committee to study the functions, services, and needs of the six state schools of agriculture. Miss Elizabeth MacDonald of Delhi, a member of that committee, made these comments in her report: 'In their respective communities these schools are filling a need which no other institutions are prepared to meet. Also, the schools could better meet their opportunities if they had more support. These schools have passed the experimental stage and if given good equipment with adequate staff, they can and should form a very important link in the state's educational system,'" (Smith, 1970).

Also, at this time the schools of agriculture were changing entrance requirements. Gaffney (1966) writes, "In 1941, acting on the 1937 ruling of the Board of Regents, the legislature placed the colleges' programs on a post-secondary level. It was a logical move, the development and implementation of high school instruction in vocational agriculture and home economics, which began in the '20s, had become so prevelant that the colleges' function was clearly to move its students away from the general training it had been offering and toward the higher degree of specialization demanded by an increasingly complex society."

The rapid addition of technical courses reflected a shift in educational philosophy and the general attitude in the state. "New York's interest in vocational technical training on a post-high school level was first reaffirmed in 1937, when two-year technical courses were added to several schools that had originally been established some 40 years prior in rural areas for training in agriculture and home economics" (Kahler, 1967).

In 1948, 18 existing state colleges, and the six agricultural and technical institutes became the State University of New York. "As a unit of the State University the Agricultural and Technical Institutes were authorized to grant an Associate of Applied Science Degree to students completing any of the two courses of study," (Smith, 1970). The merger with the State University of New York raised the academic standards in the technical schools, the existing general education courses were strengthened and new ones created. Other changes brought about by the merger were the development of student services, (housing, counseling, admissions, financial aids, etc.) and changing faculty titles to be consistent with the four-year institutions (instructor, assistant professor, associate professor, professor).

The span of 1955 to 1964 saw diversification, including curriculum changes of new programs in food preparation and management, and a two-year registered nusrse program were added. In 1964, the six Agricultural and Technical Institutes became the State University of New York Agricultural and Technical Colleges, the current title. The time from 1963 to 1972 was marked by

greater growth in facilities and enrollment than ever before. From 1974 to 1983 the colleges experienced stable enrollments, little or no change to facilities, declining resources, and minimal expansion.

Present Summary Description

The six agricultural and technical colleges are an important component of the State University of New York. Current statistics of the agricultural and technical colleges show approximate student enrollments as follow: Morrisville (3,179), Delhi (2,713), Alfred (4,265), Cobleskill (2,762), Canton (2,593), and Farmingdale (more than 13,000) full-time and part-time students.

The commitment of the agricultural and technical colleges is outlined in the 1980 mission statement of Morrisville College:

1. "Individuals enter the world of work as technicians, skilled workers, and practitioners.
2. "Opportunities for individuals to continue their preparation for more advanced levels of employment.
3. "Individuals prepare for semi-professional careers requiring some manual skill as well as involving considerable technical knowledge and understanding.
4. "Programs for emerging technologies, particularly those related to critical state manpower needs.
5. "Special educational programing to meet the educational and occupational needs of citizens of all ages."

Compensatory Education in New York State

Compensatory educational programs provide access to higher education for high risk students, noted as disadvantaged. Following the 1954 Supreme Court decision, in Brown vs. Board of

Education, and the admission of a black man, James Meredith, to the formerly segregated University of Mississippi, many other colleges began to admit minorities and other traditionally underrepresented persons.

In its 1969 Revised Master Plan, in the section on "Aid to the Disadvantaged," according to Knoell, 1960, the State University of New York Board of Trustees stated:

> One of the urgent domestic problems facing New York as well as other states, is the plight of the disadvantaged. Some of the two-year colleges will establish programs designed to help these students develop the skills, study habits, and social behavior required for a fuller and more productive life. It is hoped that more of the disadvantaged who undertake these programs will eventually be trained as technicians. Others will be encouraged to continue their studies in four year colleges and graduate school.

Cornell University started the Committee on Special Educational Projects (COSEP) in 1965, which provided admissions opportunities and support services for minority students who wanted to enroll in one of the seven undergraduate units at Cornell. In 1969, two New York state programs were begun and administrated by COSEP. The Educational Opportunity Program (EOP) in the statutory schools and colleges, and the Higher Educational Opportunity Program (HEOP) were added. In 1983, 70.4 percent of all minority students at Cornell were in the COSEP, HEOP, or EOP programs (Cornell University Subcommittee on Minority Education, 1984). Other private colleges that provided higher education opportunities for the disadvantaged were New York University and Hofstra University.

The social atmosphere of the 1960s, stemming in part from the death of Martin Luther King, Jr., helped sensitize college administrators to the need for change in higher education. This also helped prompt legislation establishing opportunity programs in New York state. The existing law, passed in 1970, established compensatory education programs in a coordinated manner at the city and state universities and at private colleges (Nolan, 1983).

The City University of New York began the Search for Education, Elevation and Knowledge (SEEK) program in 1965. It is recognized as one of the most comprehensive compensatory education programs in the United States. The program was designed to take students at an existing academic level in terms of college preparation, and through a variety of innovative, culturally sensitive techniques and services, help them earn a college degree. New York state sponsored other compensatory education programs in the early 1960s before SEEK. The City University's Operation Second Chance Program was founded by the Ford Foundation and the College Discovery Program.

The SEEK Program was started in 1965 by Leslie Berger and Bernard Levy at City College through the Pre-baccalaureate Program. The Pre-baccalaureate Program's purpose was to provide senior college educational opportunity for the disadvantaged. The philosophy of the program was pinned to modified admissions, specialized recruitment, financial assistance, individualized counseling, remedial and developmental courses, tutorial assistance, a one-to-two-year preparatory program before entering the

mainstream of college, and an extension of the required graduation semesters (Wallace, 1980).

Compensatory education in New York state has been aided by politicians in New York City and in the New York State Legislature. The Black and Puerto Rican Legislative Caucus has helped assure the continued funding of compensatory programs. This group has a membership which has lobbied for funding for the disadvantaged.

In 1964, Gov. Nelson Rockafeller and the Board of Trustees of SUNY authorized a study by Dorothy M. Knoell, to evaluate the unmet post-secondary education needs of state students. The development of urban centers resulted from the study. The SEEK Program at Buffalo State College in 1967, represented the first effort on the part of SUNY to provide higher educational opportunities to the disadvantaged. This first campus-based program in Upstate New York stemmed from the New York State Joint Legislative Committee on Higher Education which requested funds to start the program. Upstate legislators, Arthur O. Eve and Earl Brydy, played important roles in starting the program at Buffalo State College.

State University of New York Educational Opportunity Programs were created after then Chancellor Samuel Gould established a Task Force on Programs for the Disadvantaged. The panel recommended establishment of the new education challenge for SUNY.

The primary objective of EOP would be to help provide educationally related services to students whose educational and

socio-economic circumstances have limited their post-secondary educational opportunities. The program was designed to seek out disadvantaged, but talented, youngsters not only in the cities but in the suburbs and rural areas. The establishment of EOP brought closer to realization the Trustee Policy statements that every student capable of completing a program of higher education shall have the opportunity to do so.

In 1970 the Legislature approved funding for the university system to implement opportunity programs at all state-operated campuses and community colleges. The 1972 master plan called for expanding the system's educational opportunities and for serving a larger and more diversified student population. The commitment to help all qualified persons have access to programs is reflected by the broadened range of educational options in new fields of knowledge.

In 1976 the master plan of SUNY expressed the intent to extend services to the educationally and economically disadvantaged, to members of racial and ethnic minorities, and to the wards of the state. It is to this extent that New York state, and SUNY in particular, has survived with its compensatory education programs, while similar programs elsewhere wither.

RECRUITMENT AND ADMISSIONS

Status of Recruitment Efforts

It is important that college and university presidents understand the immediate and future effects before deciding to increase enrollment of minority students on their campuses. Each

institution should review its commitment to disadvantaged students. Are disadvantaged students simply being recruited to the predominately white colleges because special programs exist to admit them? Or, are those institutions actually committed to equal educational opportunity for all students who show potential for success?

Colleges must commit fully to the success of disadvantaged students. This commitment should include: minimizing academic attrition, providing adequate financial aid, counseling, and ensuring the support of faculty and staff. Schools that recruit and accept disadvantaged students have the obligation to create a supportive environment which aids the student in overcoming both personal and academic problems that may occur.

Recruitment must go beyond narrow institutional need if it is to serve the broader purpose of helping disadvantaged youth.

Recruitment business cannot continue as usual. Traditional practices, such as visitation of college representatives to high schools have not always been effective. Colleges have to create specific practices to attract disadvantaged students (Morris and Ferrante, 1971). Such federally sponsored programs as Upward Bound, the College Discovery Program, and Talent Search Programs identify students who want to enter college. These can be most beneficial, as can be the use of minority students and staff to assist in recruitment efforts. This researcher, following conversations with colleagues in similar positions in the last three years, has observed that improvements can be made. These include:

1. Making financial aid packages more attractive.
2. Sponsoring campus visits for high school counselors.
3. Utilizing matriculating minority disadvantaged students in the recruitment process.
4. Work with blue-collar adults, and community groups to identify qualified minority students for its special program.
5. Advertisements in newspapers and on the radio.
6. Develop lists of people who have direct contact with disadvantaged students who might be potential college students.
7. Participation in college career day programs sponsored by public school districts and other agencies.
8. Visitations to other educational opportunity programs.
9. Sponsor high school visits to campus. This has been quite effective at Morrisville College.
10. Make sure recruitment literature on minorities is relevant.

Recruitment practices such as these, essentially seek out potential students who often have academic and economic problems and who would not generally apply to institutions of higher education. Disadvantaged students who must be persuaded to consider higher education, must be recruited in an aggressive and systematic way. Recruiters must be organized. Written and oral presentations must give clear explanations of how a program will serve the needs and interests of the participants. Recruiters

must get community representatives and agencies involved, and also involve successful students and alumni, to assist in formulating and writing recruitment literature and in planning strategies (Astin, Astin, Biscanti, Frankel, 1972).

Selection Process

In the past, admissions requirements essentially screened out students who demonstrated a low probability of success in college. Astin, Astin, Bisconti and Frankel (1972), indicate with the emergence of open admissions policies, colleges must still maintain admission and recruitment procedures in line with the quality of supportive services available to such students. It is also important to mention that institutions have not fully involved faculty in this admissions process. This could hinder students because faculty may not be completely prepared for those students.

Before the middle 1960s, the admission of minority students to colleges was basically the responsibility of historically Black colleges in the South. In the 1960's, when -- spurred by legislation -- predominantly white colleges began recruiting minority students, the admissions process was based on students' academic backgrounds. This was, for many students, a major obstacle to overcome. Minority students' negative educational experience was the major cause of frustration for admissions staffs trying to decide what steps to take in dealing with the academically underprepared.

Today, colleges face the dilemma of assessing which minority students can best achieve in spite of predicted failure often

shown when traditional admissions criteria are applied (Brewington, Daniels, Eavers, Gooden, and Williams, 1983). Although the number of minority students applying to college is increasing, there remain few good devices with which to predict minority students' potential for success. Morrison and Terrante (1971) report there are some traits of the disadvantaged student which can help determine their potential for academic success. These include:

1. ability to handle academic work e.g., showing improvement in high school grades, acceptable achievement test results.
2. willingness to accept responsbility.
3. perception of self-worth.
4. ability to cope with frustrating circumstances.
5. motivation to improve one's life.
6. leadership potential.
7. ability to think and plan constructively.
8. realistic decision making ability.
9. special talent.
10. achievements that required substantial effort.

There is a range of personal characteristics that have been associated with the disadvantaged student. The number of deficiencies outweigh the few positive characteristics that colleges use in identifying and selecting students who show potential for success. Certain characteristics seem to unquestionably distinguish the disadvantaged student: cultural and social differences

when compared to the other student; inclusion in minority groups; lack of parental or self-support to attend college; attitude toward entering a new experience in which there is a high chance of failure.

The disadvantaged student usually comes to college with a deficient academic record. Other characteristics may significantly differ from the regularly accepted student body. Disadvantaged students require special assistance to be successful.

According to Heath (1970), the Educational Opportunity Program of the University of California at Berkeley has begun meeting the challenge of disadvantaged minority and low-income students. Heath lists the selection process as follows:

1. Applicants must submit three to five letters of recommendation from teachers and counselors;
2. A biographical statement, including future plans, must be submitted;
3. Educational Opportunity Program admissions committees review the applicant's grades and request a personal interview if needed;
4. And finally the EOP director, admissions officer, and chairman of the Faculty Committee on Admissions reviews each application and makes a recommendation.

The admissions standards used at California Berkeley clearly indicate that high school performance is not the lone bellweather of a student's college potential. If admissions offices continue to use high school achievement as the sole predictor of success,

they run the risk of excluding many minority and disadvantaged students, because disadvantaged students do not have academic backgrounds generally viewed as acceptable.

College admissions test score criteria tend to be correlated with socio-economic status and therefore often are biased against racial and ethnic minorities. Admissions guidelines should also use personality traits as indicators when reviewing minority students for admission (Grant and Singleton, 1983). Creighton (1974) conducted a study on predicting the academic achievement of disadvantaged college-bound students. He explored the effectiveness of traditional methods of evaluations (high school grade point average and Scholastic Aptitude Test scores) and subjective methods of evaluation (self, peer, parent, counselor, and teacher perceptions) in predicting the academic performance of 47 disadvantaged college freshmen. It was found that traditional methods proved inadequate. Among subjective methods, peer prediction was found to be significantly related to the disadvantaged students' academic performance. Counselors had the poorest record of estimating student performance. The study results also suggested that the more hours disadvantaged students attempt, the higher their grade point average. Hammond and Rosick (1972) conducted a study which explored possible predictors of College Education Achievement Project students' success in college at Allen University. The research was based on standardized test scores and teacher recommendations. A multiple regression correlation was run with grade point average of the first 15 hours of regular college work.

It was discovered that standardized tests are not valid predictions of college success for disadvantaged students. Munn (1972) further examines predictor variables of success in college by conducting a study of selected characteristics which impacted on the prediction of academic success of ethnic minority students enrolled in community colleges in Arizona. Also, the characteristics were described as they pertain to each group to assist in more effective guidance practices and admissions policies. The sample consisted of 713 students. The data collected on the students was analyzed, and recorded as frequency summations and as means. A regression analysis was used to statistically analyze selected variables. The criterion variable was the college grade point average. The variables for this study were age, ethnic minority group, high school grade point average and rank, curriculum choice, marital status, sex, years between high school and college, and educational test scores.

The findings from this study revealed the following:

1. There was a three to two ratio between men and women.
2. Six percent of the students were married.
3. Eighty-seven percent of the students were zero, one, or two years removed from high school graduation.
4. Approximately 80 percent of the students were 18, 19, or 20 years of age.
5. The average number of hours completed was 29.
6. Seven percent of the students possessed the status of a veteran.

7. Oriental students had the highest means on the American College Tests.
8. Fifty-seven percent graduated in the upper half of their graduating class.
9. The college grade point averages were 2.5 (Blacks and Indians), 2.7 (Mexicans), 2.9 (Orientals).
10. The variables that had the highest correlation in the prediction equations for each group were high school rank and American College Test scores.

A study conducted by DiCesare, Sedlacek and Brooks (1972), at the University of Maryland, reviewed non-intellectual correlates of Black student attrition. This study investigated ways, if any, in which Black returning students at the university were different from those not returning, by looking at demographic and attitudinal variables. The results of the study indicated that the Black students who returned to continue their academic career had more self-confidence and higher expectations.

In most cases, traditional admissions standards must be modified or used with other determiners of probable success, rather than be the sole basis for acceptance or rejection of disadvantaged students.

Brewington, Daniels, Ewers, Gooden, and Williams (1983), indicate:

> "Minority students will continue not to do as well on the traditional measures, at least in the immediate future. Colleges must accept this reality to seek alternate ways to measure academic potential as well as to provide support to the students when they arrive on

> campus. Some suggestions for doing so are the use and development of interest, personality, creativity, and cognitive-style measures in the admissions process that are sensitive to minority students' experiences and competencies. Predominantly white institutuions have to seek ancillary assistance in their efforts to attract, enroll, and graduate more minority students. One avenue is to seek the assistance of Black colleges in identifying problem areas within their present admissions processes that may be affecting their admissions programs. Black colleges have been the vanguard in this movement by taking students who were deemed inadmissible to predominantly white colleges (based on the traditional measures) and developing them through supportive efforts into highly competitive college graduates. The experiences of Black colleges could be most helpful."

In the future, admissions for minority students will likely become crucial. There may well be an increase in the number of students applying for college admissions, but who possess academic credentials that colleges may have traditionally considered substandard. Colleges must become attuned to the disparities that exist between their requirements and minority students' preparation. Until this happens, changes in student programming and admissions cannot begin.

RETENTION

Priorities of the Institution

A disadvantaged student who enters college is taking as great a risk as the institution of higher education that accepts him or her. For disadvantaged students, the path to failure is well marked. However, if strong motivation exists, the disadvantaged student may achieve in his or her academic pursuits. Once it admits these students, a college must assist them in the areas of their academic choice. Morton (1982) indicates, with cutbacks in

higher education and moderate opportunities for minorities at the post-secondary level, predominantly white colleges must make a concentrated effort to retain and increase minority students' chances of success. Also, Morton contends that the lack of support for minority college students is systematic and reinforced by low faculty expectation for academic success among Blacks and other minorities. Morton further adds that to remedy such racism (1) those in leadership positions must recognize their responsibility to address the needs of minority students; (2) the college president should examine existing programs, practices and policies that effect minority students and take a strong stance of support for ethnic diversity; (3) and finally, programs should be evaluated constantly in order to effectively retain students. These suggestions point to some priorities which must be adopted if minority students are to pursue their education.

Francisco (1983) maintains that if higher education's administrators are sincerely concerned with their image and equal educational opportunities on their individual campuses, during this time of cuts in human services, efforts must be made on their part to ensure educational opportunities for minority students become a top priority. Also, Francisco contends that existing special programs for minority students may need to be reorganized, using current funds, and seeking the participation of minority students.

It appears that faculty and administrators lack understanding and sensitivity to minority needs, as major academic, social and environmental barriers continue to exist for minority students on

predominantly white campuses. Also, research indicates there is strong justification for hiring more minority faculty and staff particularly for academic advising, counseling and other supportive service functions (Burrell, 1981). Presently, and to no surprise, minority students will seek out the assistance of family members and minority faculty and administrators for counsel and support, rather than use available resource persons. The minority staff member's responsibilities often grow as they work to meet minority students' needs, even when these demands are not a function of their office. This role has become expected by white administrators and minority students because similarities in race and cultural background exist.

The anxieties that exist in minority students as they move from high school to a predominantly white college are different than those of their white counterparts. A study conducted by Dawkins and Dawkins (1980), indicates that minority students' problems on predominantly white campuses can be overcome by redirecting the campus environment to maximize the students' academic success. The direction, environment and commitment of the institution can have an immediate affect on the minority students to perform to their full potential. Institutions committing to service disadvantaged students, must be willing to adjust educational goals to serve the student. Also, the changes in administrative attitudes, should continue in the academic community (Astin, Astin, Bisconti, Frankel, 1972).

Efforts to Reduce Attrition

Every college that accepts disadvantaged students has an obligation to help the student overcome personal and academic problems. The disadvantaged student's learning environment is important to his or her academic success. Minority students have difficulty adjusting to environments that are much different from what they are used to. At a predominantly white institution they must face social adjustments, academic pressures, and the possible feeling of minimal support from the institution.

Such difficulty can be insurmountable for an entering minority student. In fact, Hattenschivellur (1971) claims that when a non-minority student is admitted to college, and his or her initial experience is negative, he or she can adjust due to his or her academic and social preparation. On the other hand, a minority student who, in many cases, is the product of inadequate preparation, may find the adjustment process much more difficult to cope with. It is essential that there be a sensitivity to this fact among administrators and faculty. That sensitivity should lead to the development of an atmosphere which equalizes learning resources and opportunity.

Cole (1978) states that one way to assist disadvantaged minority students is through the establishment of advisement and assistance programs to meet the needs of these students. Such programs could include tutoring and informal study groups. There should also be a close and consistant monitoring system on the academic progress of these students. Counseling services, for

personal as well as academic problems could be readily available to them. Of significance here, too, is the need for an increased number of minority role models at predominantly white institutions for minority students to emulate.

Another way to improve retention of students is to undo the stereotypical systems, and put new programs into operation. Francisco (1983) indicates several alternative programs: Support Group, where in this type of group, 10-12 students meet with a counselor once or twice a week to discuss problems they are having. In these sessions students help each other solve problems. The institution may assign all first quarter or semester students to this type of group; Peer Counseling, is another idea by using upperclass students to counsel and advise new or freshman students. The peer counselor serves as academic advisor and inspirational mentor for a group of students; and finally, Out Reach by Minority Professionals. Often so few minority faculty members are employed at institutions of higher education, and subsequently they are over-extended with other responsibilities so as to be unavailable to serve as role models. In this era of shrinking budgets, an increase of minority staff may not happen. Because of this, it becomes the administrator's responsibility to encourage minority staff by offering some type of merit incentives. This would support minority faculty efforts for meeting with the students over and above the class time a student requires of a professor. If incentives are not viable options, minority staff members may have to take it upon themselves to assist minority students.

This dilemma of so few owing so much to so many has not only been part of the organizational structure of many colleges, it has also had negative effects in the classroom.

Masters and Masters (1982) suggest teachers must make two fundamental attitudinal changes in order to be successful with disadvantaged students: (1) realize that being disadvantaged is not a temporary phenomena and (2) believe that the disadvantaged student is worth the effort. Also, Masters and Masters state that in the 1980s the shallow attitude of some faculty toward students must end and a more humanistic attitude be projected. The disadvantaged students need to know they can make a positive contribution to the institution and educators need to develop an attitude that these students are human resources, not human rejects.

There has been a widespread and rapid increase in college enrollments of the academically disadvantaged. This pattern has become even more pronounced in light of the decrease in enrollment colleges now face. As a result, admissions standards are being lowered by colleges to meet enrollments. Disadvantaged students who qualify under special admissions programs, are not the only academically weak students being accepted to college. With these changes, attitudinal and curriculum changes that will assist the student in becoming one of the beneficiaries of what American higher education has to offer must begin to take shape.

COUNSELING and ADVISING

Counseling for minority students is important. The task of counselors who work with disadvantaged students is challenging, for there is no one style or method that works with all students. Counselors should establish a trusting, open relationship with students in order to remove the negative image of counseling. Students should feel the counselor is there for support, encouragement, and advisement. It is important for counselors to provide the disadvantaged student with an explanation of the university system. Counselors/advisors may also function as a sounding board for other staff and faculty members venting emotional frustrations about working with minority disadvantaged students. It is important that counselors get to know the students as soon as possible, for academic advisement, liaison with other aspects of the college community, and overcoming immediate obstacles are important to the students' success.

Gunnings (1982) indicates that minority students on predominantly white campuses are in a more stressful position than their white counterparts. This creates a different view of their environment. He said unique problems confront minority students, and that it becomes the responsibility of the counselor to conceptualize, develop, and implement a valid approach to reducing the stressors that confront the students. Gunnings also said counselors of minority students on predominantly white campuses must recognize that stress is built into the minority student's everyday life. That stress alters performance, and prevention and

recognition are important elements in handling that stress. Counselors must teach minority students to find ways to survive in spite of the barriers they face. The students must also be taught to maneuver within the institutional system to find creative solutions to their problems.

Educational Opportunity Programs have used a highly visible counseling component, due to the needs of the academically and economically disadvantaged students in the program. It must be understood that the traditional routine of appointments and office visits is not sufficient. Counselors must demonstrate emotional involvement, and be creative in developing an interpersonal relationship with the student and the college environment. They must also work with academic departments to ensure relevance and be willing to get personally involved and take risks in their support of students. Also counselors play an important role in reducing the bureaucratic structure. Emphasis on the interpersonal nature of counseling -- encouraging drop-in visits, eating lunch with students, participating in their extra-curricular activities -- is important (Blustein, 1981). Educational Opportunity Programs offer a number of challenges to counselors and student personnel professionals. As counselors become more familiar with the behavior and attitudes of disadvantaged students, their role expands. They cannot sit back and not get involved. When problems arise, the counselor must respond.

Likewise, Hispanic students have experienced difficulties in adjusting to college, because of social, ethnic, economic, and

academic disadvantages. It is not uncommon for all students to encounter difficulty in leaving home, and adjusting to a new environment. Clinicians, however, feel a combination of weak adjustment to college and some form of subjective discomfort occurs more commonly among Chicano students than others. Also students who have difficulty in adjusting to college often do not realize the negative affect it will have on their academic performance. Thus, when counselors identify this problem of alienation from campus life, immediate attention must be given to the student in order to remedy the situation (Casas and Ruiz, 1981). Also, Nieves and Valle (1979) indicate the importance in counseling Puerto Rican students, is to have an understanding of ethnic differences and the structure of the Puerto Rican family. Active involvement and interaction with students is important, particularly in order to break through the male tradition of self-help. Puerto Rican students have a lot of pride and hesitate to admit failure.

Morales (1984) indicates that Hispanic students need culturally effective counselors who can accept students on their own terms. The counselor must be flexible and use an eclectic approach. Morales also states that counselors must be sensitive to the values of Hispanics, their world views, and utilize the resources within the student's natural support system.

Counseling is integral to assisting minority disadvantaged students through stressful situations they may face in higher education. Minority students will often separate themselves from

situations they feel uncomfortable dealing with. Counselors can assist and advise students in dealing with such situations by helping the students understand the logic and normality of their feelings and actions. Many minority students fear meeting with faculty, because of the fear of failure syndrome and lack of support from them. This, too, can be better understood by the student with the assistance of an advisor or counselor.

Academic Supportive Services

Students who are admitted to college under special educational opportunity programs are deficient in basic academic skills, and require assistance to overcome this. To meet the disadvantaged student's academic needs, administrators have developed and implemented support services in tutoring, counseling, teaching, and study skills. Developmental learning centers have been and are being developed by institutions throughout the nation. They assist the admission of a greater number of disadvantaged students who do not otherwise qualify for educational opportunity programs. This has developed because of the decline in enrollment. However, this movement, in many ways, has begun to water down supportive services to the disadvantaged student who needs one-on-one support to succeed. Spaights and Hudson in (1971) suggest that too little thought and planning has gone into the formulation of special services to the disadvantaged student, particularly as institutions develop special programs to increase the admission of disadvantaged students. Spaights and Hudson also indicate the availability of tutorial and developmental programs

quite often determines the success or failure of special programs' ability to help disadvantaged students. The purpose of remedial and developmental course work is to provide necessary remediation to enhance success of the student.

To increase the disadvantaged student's chances of success, New York University developed a special five-year program instead of the traditional four-year degree program. The students spent the first two years in the School of Education, taking remedial courses designed to improve academic skills (Gordon and Wilkerson, 1966). This helped students make up academic deficiencies, and enhance success in college. Landward and Hepworth (1984) conducted a study of the Academic Enrichment Program they designed as a support course for entering freshmen. The program included individual counseling sessions and group discussions. The findings from this experimental program indicate that with academic support, high-risk students, as a group, have the potential for academic performance beyond the predicted levels. Anderson, Dale, Morris and Powell (1980) write that Kentucky State University and the University of California at Los Angeles have established programs which aid in the retention of minority and disadvantaged students.

Kentucky State's Developmental Education Program follows:

1. Special programs, which provide services for disadvantaged students at the university level, Upward Bound Program students and high school students.
2. Basic Skills Program in mathematics, English, composition, reading, speech and study skills.

3. Freshman Studies Program.
4. Entry level skills programs which give support services to entering students identified as economically, culturally, or academically disadvantaged.

UCLA's program is as follows:

A. Analysis of student retention
   1. Forces influencing the desire to attend college
   2. Obstacles to be overcome in attaining the degree
   3. Negative external forces to student persistence and achievement
   4. Internal forces which cause students not to achieve
B. Additive factors affecting minority and low income student persistence
C. Advantages and disadvantages of special programs to promote minority student persistence and achievement.

Designing a curriculum appropriate to the needs of the disadvantaged also involves taking into account the student's cultural background and deciding whether the student should adapt to the institution or whether the institution should adapt to the student.

Astin, Astin, Bisconti and Frankel (1972) indicate that one of the most pressing needs in special programs for the disadvantaged student is the development and testing of curriculum materials to help the student improve their academic abilities. They

go on to say that incoming disadvantaged students should be offered a preplanned interdisciplinary curriculum. Also, Astin, Astin, Bisconti and Frankel indicate in reviewing experimental use of time-frames that (1) scheduling should be flexible so that course work is not bound to the existing time schedules of the regular college, (2) more time should be allowed for some courses, and less time for others, (3) the period necessary to accomplish individual remediation does not always coincide with the usual school term or day, (4) an experimental program should have a commitment of at least one year, and finally (5) grades should be given little weight except as feedback information to the student, particularly with the adjustment period that will take longer for the special student. These authors feel that only after a year's time can a student's commitment to such a program and ability to succeed in college be adequately and fairly evaluated.

"Promoting Retention Among American Indian Students," by Aitken and Falk (1984), indicates several factors in the retention of Native American students by (1) encouraging the parents and the Indian community to support these students in their higher education efforts; (2) assisting students by offering development courses in mathematics, study skills, budgeting skills and career development; (3) encouraging institutions' commitments to the educational needs of Native Americans; (4) providing solid, complete financial aid packages; and (5) encouraging and reminding students of the importance of personal motivation.

The final and an important segment of direct support to the disadvantaged student supportive service is tutorial assistance.

This becomes interchangable with other remediation components offered by support programs. The purpose of tutorial assistance is to provide academic support, and help in certain skill areas for enhancement of college performance. However, this does not remove the need for assistance in remedial courses as well. Tutoring is available at most colleges, most unrelated to special programs. Because of budget support to these programs, many times students will be tutored in group settings on individual subjects instead of receiving individual tutorial assistance. The group approach is a problem for disadvantaged students who require individual assistance. New developments combining tutoring programs must be carefully reviewed, so disadvantaged students receive one-on-one tutoring. As in many cases in higher education, tutoring is the ladder to success for many minority students.

Since the inception of compensatory education programs, tutoring support has been an important component in assisting the disadvantaged student. Some programs employ undergraduate and graduate student tutors while others utilize teaching faculty, specialized professionals in developmental education and advanced disadvantaged students. Disadvantaged students have been found to be effective tutors, particularly because of similar backgrounds. Several institutions have reported there is a motivational effect in relating to a successful peer which might be a more powerful learning tool than contact with a middle class adult in a remediation classroom (Bynum, Gordon and Garrahan, 1972). Tutoring is used to accentuate the strengths and compensate for weaknesses

of disadvantaged students. Solid tutorial programs build confidence, and aid disadvantaged students in their adjustment to college. Research on the disadvantagesd student, conducted by Morrison and Terrante (1971) insists that tutoring provides opportunities for disadvantaged students to receive assistance and feedback when they need it. Many times, disadvantaged students who are in large classrooms will hesitate to ask questions because they feel insecure.

The Dilemma of Financial Aid

One of the major barriers confronting all students is securing financial support for higher education. Indeed, with the increased cost of college, institutions are forced to raise tuition. Financial aid should then increase accordingly. Specifically, for minority and disadvantaged students, it is becoming a critical issue. As federal government financial assistance programs for students are reduced, the dilemma for minority students becomes greater.

Special financial assistance programs for disadvantaged students through federal, state, and local governments have existed since the early 1960s. Since that time, particularly in the late 1970s and 1980s, these funds have been reduced each year. The situation is serious, and colleges should alleviate it if these students are to be retained and be successful. Cole (1983) clearly states that access to higher education could be diminished if student financial assistance continues to decline. A 44 percent reduction in the overall student assistance program was

proposed. This would affect approximately 2 million disadvantaged students. Also, with 80 percent of all black students receiving some form of federal assistance, their progress stands to be impeded. The dropout rate in higher education for blacks who do not receive any aid is 46 percent, as compared to 19 percent for whites. Most disadvantaged college students in New York state will receive a financial aid package with maximum federal and state grants (PELL, SEOG, TAP, EOP and other private funds), but will still need some other assistance to cover rising costs. In most cases the student is left with taking a bank loan or taking a college work study job to cover their balance. Several years ago government grants would have covered the cost of the disadvantaged student's education in New York state. But, costs increase every year while grant funding is decreasing. This dilemma becomes increasingly serious, adding more pressure to minority students before they enter college and may even turn them away from college. New York state and its colleges should consider working toward a philosophy that the disadvantaged student shouldn't carry the burden of incurring debts or work study, but should be free from financial aid cost so that they can give academics their fullest attention. States offering special assistance programs for disadvantaged students, particularly New York state, could increase state aid and (2) the individual campuses with special programs could be mandated by the state to assist the disadvantaged student through their own budgets. This could particularly help make colleges more committed to the disadvantaged students' success on their campuses.

STATE UNIVERSITY OF NEW YORK
AGRICULTURAL AND TECHNICAL COLLEGES'
EDUCATIONAL OPPORTUNITY PROGRAM

The Educational Opportunity Program is an academic and financial support program offered to New York state residents attending SUNY campuses. It provides a college education for students who demonstrate potential, but who have not had the same opportunities as other students to realize that potential. Also, to aid these students, EOP provides tutoring, personal counseling, academic advisement, career planning services and financial support.

The 1964 Master Plan for the State University of New York as declared by the Trustees states that "... every student capable of completing a program of higher education shall have an opportunity to do so." The 1966 Interim Revision confirmed this long range commitment, in which the Trustees set forth an "... expanded goal of giving each applicant what he needs to the limit of his or her capabilities, requiring only that he be adult and willing to be tested and advised." The trustees also recommended "that the unwritten policy of open door admissions to State University be confirmed as the obligation of the State University to find a place in the right program, on one or more campuses for every qualified applicant of post-high school age."

Educational Opportunity Programs at colleges in the state, served to obtain the objectives set forth by the trustees. The appropriations established for operation of the programs were

provided for testing and screening potential students; remedial courses and a pre-freshman summer program; separate tutoring program; personal counseling and academic advising services; and full financial support to cover attending the State University, from books and stipend to room and board.

The eligibility process for admissions to the Educational Opportunity Programs of SUNY -- which enables a student to receive personal, academic and financial support under Section 6542 of the Education Law -- was designed to assist campuses in establishing general parameters within which campuses may operate. The State University Faculty Senate Committee on Expanding Educational Opportunity assisted in the development of the EOP model as well as the General Plan and Guidelines for the Organization, Development, Coordination, and Operation of the Educational Opportunity Programs of the State University of New York (1981-84), which points out that an applicant must meet all of the following criteria:

> The applicant must be a resident of New York state. He or she must have graduated from an approved high school or have obtained a New York State High School Diploma, or its equivalent, such as an Armed Forces Equivalency Diploma. In the absence of a diploma, an applicant must demonstrate to the campus a level of knowledge and academic ability equal to the level specified for entrance to the program and for completion of 24 credit hours held by the State Education Department for the evidence that a general equivalency diploma has been earned.

He or she must be economically disadvantaged as determined by the income guidelines that have been established by the New York State Education Department. Applicants can qualify economically for admission to EOP:

1. by membership in a household whose income does not exceed the amount listed in income guidelines; or
2. by proof of family exceptional economic conditions: or
3. through documentation of special conditions.

The applicant must also be educationally disadvantaged to qualify for EOP. The basic criteria for determining this include:

1. non-admissibility under the college's normally applied admission standards for a degree program, and
2. identified potential for completing an academic program.

Student Identification and Selection

If an EOP applicant is economically eligible for EOP, and has previous academic records that show low grades, deficient academic content, low test scores, as well as other indicators of academic deficiencies, he or she is admissible to EOP.

To assess motivation and potential, many SUNY colleges have approached the potential for successful completion of a post-secondary program in different ways. Institutions have used

review committees to examine a student's file to ascertain whether the student can benefit from admission to the institution, or whether the institution has the adequate resources to ensure the student a reasonable chance for success. In the past, when objective predictors alone were used, they were often not that reliable. They reflected only the applicant's past experiences with academic and social systems rather than their potential for success. This resulted in the graduation of more than 30,000 disadvantaged students throughout New York state. Thus competent reviewers look for evidence of such traits as motivation, maturity, supportive family, combined with academic grades, test scores, and the institutional ability to provide appropriate services to make an adequate admissions decision. Many institutions include a personal interview and recommendations along with the review of academic records to further explore those qualities which insure academic success. Also students admitted to an EOP program will generally have a high school G.P.A. average below 80 and a rank in the 65th or lower percentile in his or her class.

Financial Aid in Educational Opportunity Program

Financial aid is provided to help the disadvantaged student with the cost of room, board, tuition, books and personal expenses. Aid is based on need, according to guidelines which include family income and size of the family. Funds from a variety of sources are most often used to meet student financial need. The most commonly used funds at the agricultural and technical

colleges for an EOP student are the PELL grant, Tuition Assistant Program (TAP), Supplemental Educational Opportunity Grant (SEOG), Educational Opportunity Program (EOP) stipend, college work study (CWS), guaranteed student loan (GSL) and other self-support income may be included.

In the past it was not uncommon for an EOP student to receive 100 percent of their financial aid package in the forms of grant and scholarship. However, over the past five years, financial aid packaging for the disadvantaged student has changed drastically. A great percentage of an EOP student's financial aid award is now in the form of self-help. While grants are decreasing, work study and loans are increasing. The affect is that the EOP student is having to shoulder a larger part of his or her personal financial burdens. It is imperative that Directors of Financial Aid give proper attention and counseling to EOP students when packaging, and the burden of financial aid must not interfere with the student's concentration on meeting academic challenges.

Tutorial Services in Educational Opportunity Program

Tutorial services are provided for students as a supplement to course instruction and personal study time. This service can often determine the student's success. The EOP student may receive one-on-one and group tutoring. In many cases tutoring sessions are held in a location where there can be open verbal exchange. The focus of the tutorial assistance program is on helping each student progress academically to the point where

there is no longer a need for tutorial help. Developmental Learning Centers are used to supplement the tutorial support services by providing services to improve reading, writing, mathematics and other problems associated with learning.

Academic Advisement and Course Selection

Academic advisement of EOP students is a vital part of the support system. The EOP is involved in scheduling and overseeing students' academic advisement. It would be a mistake for an EOP to rely solely on routine campus advising system, as that counselor would not be totally familiar with the students' needs.

Students' transcripts and other high school records, along with diagnostic placement tests results, in mathematics, reading and writing are evaluated when selection of courses is done. This helps make course placement recommendations and enrollment in developmental courses.

Curriculum development is a new and growing process for EOP students. The development of specific courses to meet the academic needs of those students will better assist in academic advisement and course selection. The Agricultural and Technical College at Delhi has a developmental program in reading, English, mathematics, and science which students take for a minimum of one term and a maximum of a year. Curriculums designed to reflect more realistically the concerns, interests, and past experiences of students may improve the promise of the disadvantaged student. If the disadvantaged student is to survive in higher education,

curriculum planners must give thought to the student's learning styles and experiences.

Personal and Social Counseling in the Educational Opportunity Program

EOP counselors provide continuing personal, academic and career counseling to EOP students, all aimed at helping students work towards their degrees. The program counselor is responsible for assisting students in making a smooth transition from high school to college. The counselor is normally assigned students and works directly with the group to assist them in developing positive attitudes toward their classes, in the development of good study habits, and the development of communication and human relation skills. The EOP counselor is a planner, negotiator, supporter, overseer, and the student's advocate. Counselors are the primary link to the student's success at the college.

CHAPTER III

STUDY DESIGN AND METHODOLOGY

Study Design

The primary purpose of this study is to determine those selected characteristics which best predict the academic success and the performance of minority disadvantaged students enrolled in the State University of New York Agricultural and Technical Colleges' Educational Opportunity Program, to aid in the possible improvement of colleges' admission criteria and administrative oversight of the Educational Opportunity Program students. The researcher of this study examined the high school and college transcripts to analyze, geographic area, ethnicity, sex, high school grade point averages, and units of mathematics and science completed. Also examined were the Scholastic Aptitude Test scores (mathematics, verbal), type of high school diploma received, college major, years between high school completion and college admission, students interviewed and age of the 287 minority (Black, Spanish surname, Native American) students serving as the study population (the total number of entering students admitted in 1979, 1980, and 1981) and divided them into two groups: those who were successful in college and those who were not. These minority groups and their characteristics served as a basis from which to

arrive at predictors for student success and failure in State University of New York Agricultural and Technical College Educational Opportunity Programs.

Hypothesis

The following hypothesis were used to address the previously stated variables:

1_a There will be no relationship between geographic area and academic success of minority disadvantaged students in the program.

1_b There will be a relationship between geographic area and academic success of minority disadvantaged students in the program.

2_a There will be no relationship between ethnicity and academic success of minority disadvantaged students in the program.

2_b There will be a relationship between ethnicity and academic success of minority disadvantaged students in the program.

3_a There will be no relationship between sex and academic success of minority disadvantaged students in the program.

3_b There will be a relationship between sex and academic success of minority disadvantaged students in the program.

4_a There will be no relationship between age and academic success of minority disadvantaged students in the program.

4_b There will be a relationship between age and academic success of minority disadvantaged students in the program.

5_a There will be no relationship between high school grade point average and academic success of minority disadvantaged students in the program.

5_b There will be a relationship between high school grade point average and academic success of minority disadvantaged students in the program.

6_a There will be no relationship between the number of units of high school mathematics and academic success of minority disadvantaged students in the program.

6_b There will be a relationship between the number of units of high school mathematics and academic success of minority disadvantaged students in the program.

7_a There will be no relationship between the number of units of high school science and academic success of minority disadvantaged students in the program.

7_b There will be a relationship between the number of units of high school science and academic success of minority disadvantaged students in the program.

8_a There will be no relationship between Scholastic Aptitude Test mathematics scores and academic success of minority disadvantaged students in the program.

8_b There will be a relationship between Scholastic Aptitude Test mathematics scores and academic success of minority disadvantaged students in the program.

9_a There will be no relationship between Scholastic Aptitude Test verbal scores and academic success of minority disadvantaged students in the program.

9_b There will be a relationship between Scholastic Aptitude Test verbal scores and academic success of minority disadvantaged students in the program.

10_a There will be no relationship between type of high school diploma and academic success of minority disadvantaged students in the program.

10_b There will be a relationship between type of high school diploma and academic success of minority disadvantaged students in the program.

11_a There will be no relationship between college major and academic success of minority disadvantaged students in the program.

11_b There will be a relationship between college major and academic success of minority disadvantaged students in the program.

12_a There will be no relationship between years between high school and college and academic success of minority disadvantaged students in the program.

12_b There will be a relationship between years between high school and college and academic success of minority disadvantaged students in the program.

13_a There will be no relationship between students interviewed and academic success of minority disadvantaged students in the program.

13_b There will be a relationship between students interviewed and academic success of minority disadvantaged students in the program.

Description of the Sample

The subjects for this study were selected from five of the six State University of New York Agricultural and Technical

Colleges' Educational Opportunity Programs. These are located at Alfred, Canton, Cobleskill, Delhi, and Morrisville.

The population for this study included all minority disadvantaged matriculants who entered these Educational Opportunity Programs during the 1979, 1980, and 1981 fall semesters. Table 1 illustrates the ethnic breakdown by year, and by the total number of male and female matriculants selected for the study.

TABLE 1 -- THE SAMPLE BY ETHNIC BREAKDOWN, 1979, 1980, 1981

ETHNIC GROUP	1979			1980			1981		
	M	F	T	M	F	T	M	F	T
BLACK	45	36	81	42	41	83	40	27	67
NATIVE AMERICAN	3	0	3	1	3	4	1	3	4
SPANISH SURNAME	11	4	15	7	10	17	9	4	13
TOTAL	59	40	99	50	54	104	50	34	84

All minority students who were admitted during the period of this study were included in the population in order to secure a manageable sample (minority students admitted comprise less than 2 percent of the total student body at each campus). In attempting to divide the subjects into successful and unsuccessful students in terms of academic performance, this researcher has defined academic success as completion of at least one semester with a minimum of 12 hours, with a grade point average of 2.0 (C) or better.

Data Collection

The 1979, 1980, and 1981 EOP fall enrollment reports, submitted to the State University of New York Central Administration's Office of Special Programs by each campus was used to identify the number of entering minority disadvantaged students on each campus. This researcher visited the Office of Special Programs to receive and confirm this information.

Endorsement of this study was also given by the Deputy to the Chancellor of the Office of Special Programs. With the support of the participating campus presidents the collection of data was gathered by the researcher during campus visits and by receipt of verified information from participating EOP directors and other offices (i.e. registrar). High school and college records were collected from the five college campuses involved in this study.

DATA ANALYSIS

This study employs three research techniques to analyze the 13 variables believed to be associated with college success. Those techniques are described below, and the rationale for their use in this study is included.

To test if there was a significant difference between the successful group and the unsuccessful group in academic achievements, the chi-square test and t-test were utilized. The multiple regression analysis technique was utilized to assist in the prediction of college grade point average.

CHI-SQUARE

The chi-square technique tests the statistical significance of the relationships between independent variables and compares the difference between the actual count in the individual cells and the count which is expected purely on the basis of chance. If there is no relationship between the variables, these counts should be almost equal, and the chi-square value in this case would be small. However, if there is a relationship between the variables, the count should differ and the chi-square value should be large.

The researcher used chi-square to best determine the significance of the variables tested. Kirk (1978) point out that the use of the chi-square test is for comparisons of independent samples which may be of unequal size and have no pairing of observations.

t-TEST

The t-test statistical method is often used when evaluating the statistical significance of a difference between two sample means. Bounds, Cormier and Huck (1974) point out that the t-test is most often used to compare the means of two groups. If the two sample means are far enough apart, the t-test will concede a significant difference, thus permitting the researcher to conclude that the two populations probably do not have the same mean.

The researcher used the t-test statistical analysis to test the significance of the difference between the two groups by age,

high school grade point average, units of high school mathematics, and science, and Scholastic Aptitude Test scores (mathematics, verbal).

Multiple Regression Analysis

Another statistical technique used to examine the data and define relationships among the variables in this study is multiple regression analysis. A statistical comparison is be made of appropriate characteristics derived from students' files and compared through a multiple regression technique. This technique is a mathematical analysis that will give one a set of coefficients that can be multiplied by each carrier of information to yield a prediction of what a person's college grade point average will be.

SUMMARY

Following an initial review of the data, this researcher decided to use the chi-square and t-test to test the hypotheses. This researcher used the multiple regression method to best provide an accurate comparison of the data to predict college grade point average from a relevant subset of variables in this limited sample.

CHAPTER IV

ANALYSIS OF THE RESULTS

Introduction

The focus of this study was to investigate and discuss selected characteristics which impact on the academic success and performance of minority disadvantaged students in the Educational Opportunity Programs of the State University of New York Agricultural and Technical Colleges. Also, certain characteristics will be employed together to compose the best model for predicting college grade point average for the population in this study. These students were admitted as a result of the Educational Opportunity Program, a vehicle charged with admitting capable students who have not reached their academic potential because of limited financial resources and inadequate academic preparation. The population was divided in several ways: by age, sex, geographical area, ethnicity, major, and by comparisons of the students who were successful and those who were unsuccessful.

In this chapter the hypotheses will be restated. Comparisons will be made through the chi-square and t-test statistical analysis on selected variables to observe statistical significance. These statistical analyses will demonstrate if there exists a significant difference between the successful and the unsuccessful

groups, and if the variables tested can be considered related to academic success.

A descriptive statement will be made about the statistical outcome of the hypothesis testing. Also, multiple regression is used to predict college grade point average from a relevant subset of variables that was employed in the study.

Testing of the Hypotheses

1_a: Research Hypothesis -- There will be a relationship between geographic area and academic success of minority disadvantaged students in the program.

1_b: Null Hypothesis -- There will be no relationship between geographic area and academic success of minority disadvantaged students in the program.

The chi-square of the geographical area of the two groups shown in Table 2 shows no significant difference in the success of minority disadvantaged students. The table further illustrates that the New York City region had 139, or 48 percent of the students in that region. The New York City and the Long Island regions are both downstate metropolitan areas, and combine for a total of 177, or 62 percent of the sample.

TABLE 2 -- GEOGRAPHICAL AREA BY ACADEMIC SUCCESS

GEOGRAPHICAL AREA	SUCCESSFUL GROUP	UNSUCCESSFUL GROUP	ROW TOTAL
NIAGARA FRONTIER/ LAKE ONTARIO REGION	13 38.2	21 61.7	34 11.8
SOUTHWESTERN REGION	2 50.0	2 50.0	4 1.4
FINGER LAKES/ 1000 ISLANDS REGION	6 25.0	18 75.0	24 8.4
CENTRAL REGION	7 35.0	13 65.0	20 7.0
ADIRONDACK REGION	1 33.3	2 66.6	3 1.1
CAPITAL DISTRICT REGION	4 26.6	11 73.3	15 5.2
CATSKILL REGION	4 40.0	6 60.0	10 3.5
NEW YORK CITY REGION	47 33.8	92 66.1	139 48.4
LONG ISLAND REGION	13 34.2	25 65.7	38 13.2
COLUMN TOTAL	97 33.80	190 66.20	287 100.00

CHI-SQUARE = 2.126 WITH 8 DEGREES OF FREEDOM P=.977

2_a: Research Hypothesis -- There will be a relationship between ethnicity and academic success of minority disadvantaged students in the program.

2_b: Null Hypothesis -- There will be no relationship between ethnicity and academic success of minority disadvantaged students in the program.

The figures in Table 3 illustrate that 70, or 30 percent, of the 231 Black students experienced academic success. It was expected, according to the testing of ethnicity, that 78 Black students would be successful. There were 161, or 70 percent, of the Black students who were unsuccessful, with the expectancy of 153. The table illustrates that the expectancy of academic success of Black students should have been greater than 30 percent.

The Spanish surname students did much better than the Black and Native American students. The figures illustrate that 15.2 Spanish surname students were expected to be successful and 22, or 49 percent, were. Also, there was an expectancy of 29.8 Spanish surname students to be unsuccessful, while only 23 were.

There were 11 Native American students, 3.7 were expected to be successful and 5, or 45 percent, were. Thirty-four percent of the total sample experienced academic success.

There is a significant relationship between ethnicity and academic success.

TABLE 3 -- ETHNICITY BY ACADEMIC SUCCESS

ETHNICITY	SUCCESSFUL GROUP	UNSUCCESSFUL GROUP	ROW TOTAL
BLACK	* 70 78.1 30.30	161 152.9 69.70	231 80.49
SPANISH SURNAME	22 15.2 48.89	23 29.8 51.11	45 15.68
NATIVE AMERICAN	5 3.7 45.45	6 7.3 54.55	11 3.83
COLUMN TOTAL	97 33.80	190 66.20	287 100.00

CHI-SQUARE = 6.509 WITH 2 DEGREES OF FREEDOM P=.039

*CELLS (observed frequency, expected frequency, row percent)

3_a: Reseach Hypothesis -- There will be a relationship between sex and academic success of minority disadvantaged students in the program.

3_b: Null Hypothesis -- There will be no relationship between sex and academic success of minority disadvantaged students in the program.

Table 4 illustrates that 51, or 32 percent, of the males were successful, along with 46, or 36 percent, of the females and 97, or 34 percent, of the total sample. The table further illustrates that 108, or 68 percent, of the males were unsuccessful, along with 82, or 64 percent, of the females who were unsuccessful.

In the test for significance, there was no significant relationship between sex and academic success.

TABLE 4 -- SEX BY ACADEMIC SUCCESS

SEX	SUCCESSFUL GROUP	UNSUCCESSFUL GROUP	ROW TOTAL
MALE	51 32.08	108 67.92	159 55.40
FEMALE	46 35.94	82 64.06	128 44.60
COLUMN TOTAL	97 33.80	190 66.20	287 100.00

CHI-SQUARE = 0.473 WITH 1 DEGREE OF FREEDOM P=.492

4_a: Research Hypothesis -- There will be a relationship between age and academic success of minority disadvantaged students in the program.

4_b: Null Hypothesis -- There will be no relationship between age and academic success of minority disadvantaged students in the program.

Table 5 shows that there was no significant difference in the age of the successful and unsuccessful groups. The mean of the two groups show little difference.

TABLE 5 -- AGE BY ACADEMIC SUCCESS

GROUP	NO. SUBJECTS	MEAN AGE	STANDARD DEVIATION
SUCCESSFUL	97	18.938	2.474
UNSUCCESSFUL	190	19.257	2.956

t=-0.914 df=285 P=.361

5_a: Research Hypothesis -- There will be a relationship between high school grade point average and academic success of minority disadvantaged students in the program.

5_b: Null Hypothesis -- There will be no relationship between high school grade point average and academic success of minority disadvantaged students in the program.

Table 6 shows that the successful group had a mean high school grade point average that was higher than the unsuccessful group. The t-test showed a significant difference between the two groups.

TABLE 6 -- HIGH SCHOOL GRADE POINT AVERAGE BY ACADEMIC SUCCESS

GROUP	NO. SUBJECTS	MEAN HIGH SCHOOL GPA	STANDARD DEVIATION
SUCCESSFUL	91	74.606	5.001
UNSUCCESSFUL	176	72.896	4.927

t=2.67 df=265 P=.008

6_a: Research Hypothesis -- There will be a relationship between the number of units of high school mathematics and academic success of minority disadvantaged students in the program.

6_b: Null Hypothesis -- There will be no relationship between the number of units of high school mathematics and academic success of minority disadvantaged students in the program.

In examining the number of units of high school mathematics as it relates to academic success, Table 7 shows no significant difference in the mean of units of math taken by the two groups.

TABLE 7 -- NUMBER OF UNITS OF HIGH SCHOOL MATH BY ACADEMIC SUCCESS

GROUP	NO. SUBJECTS	MEAN HIGH SCHOOL MATH UNITS	STANDARD DEVIATION
SUCCESSFUL	93	2.602	0.945
UNSUCCESSFUL	178	2.511	1.100

t=0.676 df=269 P=.499

7_a: Research Hypothesis -- There will be a relationship between the number of units of high school science and academic success of minority disadvantaged students in the program.

7_b: Null Hypothesis -- There will be no relationship between the number of units of high school science and acdemic success of minority disadvantaged students in the program.

Table 8 further shows that there is no significant difference in the number of units of high school science between the successful group and unsuccessful groups.

TABLE 8 -- NUMBER OF UNITS OF HIGH SCHOOL SCIENCE BY ACADEMIC SUCCESS

GROUP	NO. SUBJECTS	MEAN HIGH SCHOOL SCIENCE UNITS	STANDARD DEVIATION
SUCCESSFUL	93	2.483	0.892
UNSUCCESSFUL	178	2.432	0.931

t=0.436 df=269 P=.662

Table 9 indicates that 58, or 20 percent, of the sample took the Scholastic Aptitude Test. Twenty-two were from the successful group and 36 were from the unsuccessful group. The table further illustrates that 229, or 80 percent, of the sample did not take the Scholastic Aptitude Test, 75 were from the successful group and 154 were from the unsuccessful group.

TABLE 9 -- SCHOLASTIC APTITUDE TEST COUNT

SAT COUNT	SUCCESSFUL GROUP	UNSUCCESSFUL GROUP	ROW TOTAL
YES	22 37.93	36 62.07	58 20.2
NO	75 32.75	154 67.25	229 79.8
COLUMN TOTAL	97 33.80	190 66.20	287 100.00

8_a: Research Hypothesis -- There will be a relationship between Scholastic Aptitude Test mathematics scores and academic success of minority disadvantaged students in the program.

8_b: Null Hypothesis -- There will be no relationship between Scholastic Aptitude Test mathematics scores and academic success of minority disadvantaged students in the program.

Table 10 shows that, according to the t-test, of the students from the successful group and the unsuccessful group who took the Scholastic Aptitude Test, there was no significant difference in the mean score of the Scholastic Aptitude Test mathematics section.

TABLE 10 -- SCHOLASTIC APTITUDE TEST MATHEMATICS BY ACADEMIC SUCCESS

GROUP	NO. SUBJECTS	MEAN SAT MATH	STANDARD DEVIATION
SUCCESSFUL	22	324.090	75.571
UNSUCCESSFUL	36	299.444	49.277

t=1.362 df=32 P=.182

9_a: Research Hypothesis -- There will be a relationship between Scholastic Aptitude Test verbal scores and academic success of minority disadvantaged students in the program.

9_b: Null Hypothesis -- There will be no relationship between Scholastic Aptitude Test verbal scores and academic success of minority disadvantaged students in the program.

Table 11 shows that, according to the t-test, of the students from the successful group and the unsuccessful group who took the Scholastic Aptitude Test, there was no significant difference in the mean score of the Scholastic Aptitude Test verbal section.

TABLE 11 -- SCHOLASTIC APTITUDE TEST VERBAL BY ACADEMIC SUCCESS

GROUP	NO. SUBJECTS	MEAN SAT VERBAL	STANDARD DEVIATION
SUCCESSFUL	22	300.454	99.210
UNSUCCESSFUL	36	278.888	73.320

t=0.949 df=56 P=.346

10_a: Research Hypothesis -- There will be a relationship between type of high school diploma and academic success of minority disadvantaged students in the program.

10_b: Null Hypothesis -- There will be no relationship between type of high school diploma and academic success of minority disadvantaged students in the program.

Table 12 illustrates that 273, or 95 percent, of the sample held a regular high school diploma, and 14, or 5 percent, held a general equivalency diploma. Only 34 percent of the students who held a regular diploma experience success, while only 21 percent of the students who held a general equivalency diploma experienced success.

There is no significant relationship between type of high school diploma and academic success.

TABLE 12 -- TYPE OF HIGH SCHOOL DIPLOMA BY ACADEMIC SUCCESS

HIGH SCHOOL DIPLOMA	SUCCESSFUL GROUP	UNSUCCESSFUL GROUP	ROW TOTAL
REGULAR	94 34.43	179 65.57	273 95.12
GENERAL EQUIVALENCY	3 21.43	11 78.57	14 4.88
COLUMN TOTAL	97 33.80	190 66.20	287 100.00

CHI-SQUARE = 1.006 WITH 1 DEGREE OF FREEDOM P=.316

11_a: Research Hypothesis -- There will be a relationship between college major and academic success of minority disadvantaged students in the program.

11_b: Null Hypothesis -- There will be no relationship between college major and academic success of minority disadvantaged students in the program.

Table 13 illustrates that whether a student is successful or unsuccessful can depend upon the major field of study they choose. There were 109, or 41 percent, of the sample who chose or were put into the major Individual Studies. Chi-square test results indicate that 28 with an expected 37.2 students were successful and 81 rather than the expected 71.8 were unsuccessful. The major areas of business and engineering seemed to illustrate a noticable difference, having much greater success than expected as compared to the other major areas. There were 53, or 20.08 percent, of the sample who chose business as a major, with 26 students of an expected 18.1 experiencing success. In the major area of engineering, 20, or 7.57 percent, of the sample chose this area of study, 11 with an expected 6.8 experiencing success. Some of the reported majors were excluded, because the expected frequencies were so small that they would jeopardize the validity of the chi-square test.

There is a significant relationship between college major and academic success.

TABLE 13 -- COLLEGE MAJOR BY ACADEMIC SUCCESS

COLLEGE MAJOR	SUCCESSFUL GROUP	UNSUCCESSFUL GROUP	ROW TOTAL
AGRICULTURE	*3	11	14
	4.8	9.2	
	21.43	78.57	5.30
BUSINESS	26	27	53
	18.1	34.9	
	49.06	50.94	20.08
ENGINEERING	11	9	20
	6.8	13.2	
	55.00	45.00	7.57
FOOD SCIENCE	3	13	16
	5.5	10.5	
	18.75	81.25	6.06
HEALTH SERVICES	7	12	19
	6.5	12.5	
	36.84	63.16	7.20
INDIVIDUAL STUDIES	28	81	109
	37.2	71.8	
	25.69	74.31	41.29
LIBERAL ARTS	6	12	18
	6.1	11.9	
	33.33	66.67	6.82
MECHANICAL ENGINEERING	6	9	15
	5.1	9.9	
	40.00	60.00	5.68
COLUMN TOTAL	90	174	264
	34.09	65.91	100.00

CHI-SQUARE = 15.576 WITH 7 DEGREES OF FREEDOM P=.029

*CELLS (Observed Frequency, Expected Frequency, Row Percent)

12_a: Research Hypothesis -- There will be a relationship between years between high school and college and academic success of minority disadvantaged students in the program.

12_b: Null Hypothesis -- There will be no relationship between years between high school and college and academic success of minority disadvantaged students in the program.

Table 14 illustrates that 29, or 71 percent, of the students who did not enter college directly after high school were in the unsuccessful group. Also only 85, or 34 percent, of the students who entered college immediately following high school, experienced academic success.

There is no significant relationship between years between high school and college and academic success.

TABLE 14 -- YEARS BETWEEN HIGH SCHOOL AND COLLEGE BY ACADEMIC SUCCESS

LAPSE BETWEEN HS and COLLEGE	SUCCESSFUL GROUP	UNSUCCESSFUL GROUP	ROW TOTAL
YES	12 29.27	29 70.73	41 14.29
NO	85 34.55	161 65.45	246 85.71
COLUMN TOTAL	97 33.80	190 66.20	287 100.00

CHI-SQUARE = 0.439 WITH 1 DEGREE OF FREEDOM P=.508

13_a: Research Hypothesis -- There will be a relationship between students interviewed and academic success of minority disadvantaged students in the program.

13_b: Null Hypothesis -- There will be no relationship between students interviewed and academic success of minority disadvantaged students in the program.

Those students who had an admissions interview with the Educational Opportunity Program Office tended to be more successful than the students who did not have an interview.

The figures in Table 15 illustrate that 37, with an expectancy of 29.1, or 43 percent, of the students interviewed were from the successful group, while 60, with an expectancy of 67.9, or 30 percent, of students who had no interview were from the same group. The table also further illustrates that 141, with an expectency 133.1, or 70 percent, of the students who had no interview were unsuccessful.

There is a significant relationship between students interviewed and academic success.

TABLE 15 -- EDUCATIONAL OPPORTUNITY PROGRAM ADMISSIONS INTERVIEW BY ACADEMIC SUCCESS

INTERVIEW	SUCCESSFUL GROUP	UNSUCCESSFUL GROUP	ROW TOTAL
YES	* 37	49	86
	29.1	56.9	
	43.02	56.98	29.97
NO	60	141	201
	67.9	133.1	
	29.85	70.15	70.03
TOTAL	97	190	287
	33.80	66.20	100.00

CHI-SQUARE = 4.671 WITH 1 DEGREE OF FREEDOM P=.031

*CELLS (Observed Frequency, Expected Frequency, Row Percent)

College Grade Point Average Prediction

The multiple regression analysis technique employed to assist in the prediction of college grade point average based upon information from selected variables, was used for the sample in this study. The variables used in the analysis were ones that college admissions personnel could have on hand to use in the selection process. The population in this study is so specialized, in that certain information on specific variables was not complete, causing difficulty with the analysis used. An example would be the Scholastic Aptitude Test, which so few students in the population took. Also, the number of semester hours completed and the students' reasons for leaving college were not considered, because this information would not be available to a counselor making an admission decision.

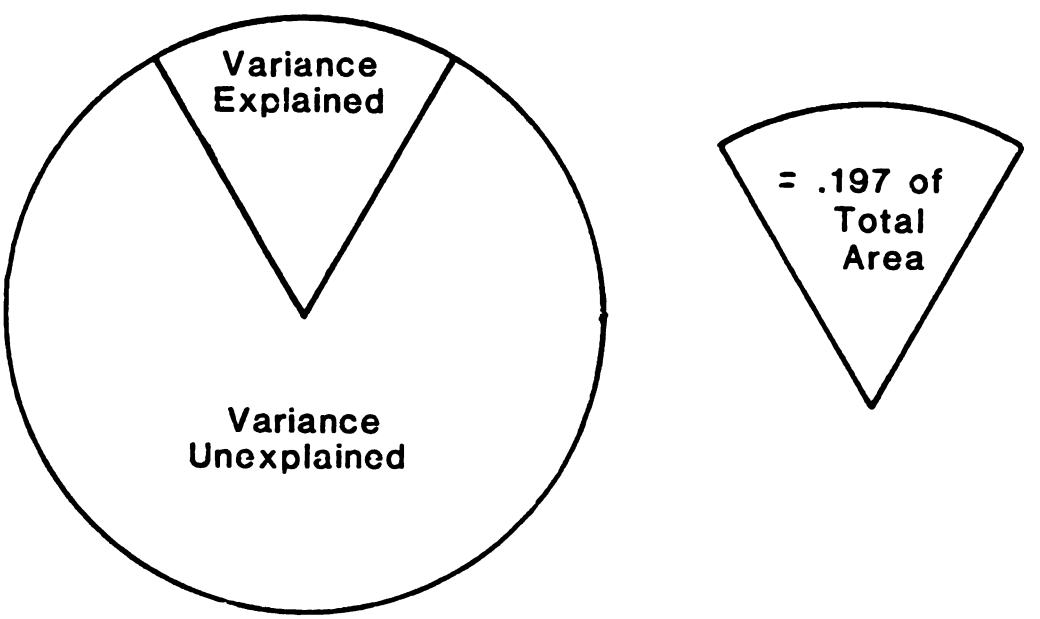
Based upon the multiple regression analysis that was performed, the following six independent variables, listed from most to least important carriers of information, together composed the best model for predicting college grade point average for the population in this study.

1. High School Grade Point Average
2. Admissions Interview
3. College Major
4. Units of High School Science
5. Age
6. Years Between High School and College

The coefficient of determination (R = 0.197) indicates the proportion of the variance among the college grade point averages that can be explained by this six variable model.

The diagram below, Table 16, represents the total variance of the college grade point averages. Variance in the college grade point average scores that is unexplained by the model, is the area outside the slice. Only less than one-fifth or 20 percent of the observed variance in college grade point average scores can be explained. The six independent variables together account for the small slice of the diagram. It is interesting to note that three of these six variables, listed in order of importance (high school grade point averages, admissions interview, college major) were all significant in the study.

TABLE 16 -- COLLEGE GRADE POINT AVERAGE VARIANCE



Summary

The results of the study have been presented as they pertain to the research hypotheses and related questions. Relationships between those selected characteristics which impact on the prediction of academic success and minority students' performance at State University of New York Agricultural and Technical Colleges' Educational Opportunity Programs are drawn. To test the hypotheses, a population was selected which included all entering minority students admitted during the period of this study (Blacks, Spanish surname, Native Americans).

This chapter has analyzed data which have been generated from statistical tests of a number of hypotheses.

Based on the results of this study, several of the above variables appear to be factors which warrant consideration by Educational Opportunity Program Offices and admission committees in selecting and guiding members of prospective classes. The findings presented in this chapter appear to indicate that a majority of the population was performing unsatisfactorily, although the variables (race, interview, college major, and high school grade point average) showed a significant difference in regards to the academically successful group and the unsuccessful group. The high school grade point average was the single most important carrier of information about college grade point average. Multiple regression was used to find the best model for predicting college grade point average.

CHAPTER V

SUMMARY AND DISCUSSION, CONCLUSIONS, RECOMMENDATIONS, AND IMPLICATIONS FOR FURTHER RESEARCH

Summary Discussion

Educational Opportunity Programs provide the opportunity for capable students who have not reached their academic potential because of limited financial resources and inadequate academic preparation to receive a college education. The purpose of this study was to investigate certain characteristics and the performance of the successful and unsuccessful disadvantaged minority matriculants in the State University of New York Agricultural and Technical Colleges' Educational Opportunity Programs, and to use selected characteristics to predict academic achievement of these students.

The population consisted of 231 Blacks, 45 Spanish surname, and 11 Native Americans attending five of the State University's six agricultural and technical colleges. The population was divided into groups who experienced success or were unsuccessful in academic performance. Academic success was defined as any student who completed at least one semester with a minimum of 12 credit hours with a grade point average of 2.0 or better. Each student's high school and college transcripts were analyzed to determine academic achievements based on geographic area, ethnicity, sex,

high school grade point average, units of mathematics and science completed, Scholastic Aptitude Test (mathematics, verbal), type of high school diploma, college major, years between high school and college, personal interview, and age.

Once disadvantaged students are admitted into the colleges and universities throughout the United States, the commitment to academic and social support is valuable toward the success of the student. Educational Oopportunity Program Staff and other guidance personnel need more direction in the establishment of policies, programs and procedures, to meet the needs of their students. In addition, the institution's administrative staff must realize the importance of proper programming to insure the success of disadvantaged students. These students should not be admitted because of legislation, and then be denied necessary supportive assistance. Schools that accept disadvantaged students have an obligation to create, nurture, and maintain a supportive environment which aids the student in overcoming personal and academic deficiencies. This study attempts to illustrate how establishment of better admissions guidelines, and guidance practices can benefit the minority disadvantaged student and the college he or she enrolls in. The study examines the following subquestions:

1. Is there a significant difference in the selected variables of successful and unsuccessful minority disadvantaged students?
2. What has been the nature of the performance of minority disadvantaged students to State University of New York

agricultural and technical colleges' Educational Opportunity Program?

3. Do variables outlined in this study have a significant affect in predicting academic success?

As indicated in Chapter II, the review of literature, Grant and Singleton (1983) state that admissions criteria based on test scores tend to be correlated with socio-economic status and are biased against racial and ethnic minorities. It is suggested that other factors such as personality traits be considered when reviewing a minority student for admissions. Creighton (1974), in the study of the effectiveness of traditional and subjective methods in predicting the academic performance of disadvantaged college freshmen, discovered that traditional methods proved inadequate. In subjective methods, peer prediction was found to be significantly related to the disadvantaged student's academic success. Counselors had the poorest record of predicting academic performance of the students. Study results also suggest that the more hours disadvantaged students attempt, the higher their grade point average.

Hammond and Rosick (1972) found in their study of possible predictors of college success, that standardized tests are not valid predictors of college success for disadvantaged students.

In a study by Dunn (1972) describing certain characteristics of the successful ethnic minority students enrolled in Arizona community colleges, it was found that:

1. Few minority students were successful.

2. The number of Asian-Americans was small compared to the other groups.
3. Marital status, number of hours completed, and status as a veteran were characteristics of limited importance.
4. A prediction of success could not be made on curricular choice based upon given information. However, the regression equation technique could be used to guide students into certain curricula in which success could be achieved.
5. American College Testing composite and rank in class used as admission criteria should be used only with careful study. Also, the use of a single criteria for admisson is inadvisable.
6. The regression equation used in this study can improve the prediction of academic success for each ethnic group. A college success factor could be predicted and each variable could possibly give student advisors a guideline for individual curricular choice.

In a study conducted by DiCesare, Sedlacek and Brooks (1972), looking at non-intellectual correlates of Black student attrition, it was discovered that Black students who continued their academic studies had more self-confidence and higher expectations than those students who left college.

The findings from the study indicate similar results as found in some of the previously mentioned studies. It suggests:

1. Very few minority disadvantaged students were successful at the colleges studied.

2. Spanish surname students experience greater success than the other groups.
3. High school grade point average is a positive indicator for academic success.
4. Choice of college major showed a positive relationship to academic success.
5. Use of Educational Opportunity Program admissions interviews showed a significant relationship to academic success.
6. Geographical area, sex, age, units of high school mathematics and science, Scholastic Aptitude Test mathematics and verbal, type of high school diploma, and years between high school and college, were not significant.
7. The best model that was found to predict college grade point average from relevant variables was still so poor as to be impractical.

CONCLUSIONS

Within the limitations of this study, and the statistical analyses employed, the following conclusions are drawn from the data collected and reported in Chapter IV. The findings show there is a lack of successful minority students. In this study only 33.8 percent of the students experienced academic success. Had the researcher used the traditional view of academic success -- graduation -- the percentage of students having success would have been 18.8 percent. After review of the data in this study, there are questions concerning why there are so few successful

minority disadvantaged students at the agricultural and technical colleges in the State University of New York.

GEOGRAPHICAL AREA

There was no significant difference in the academic success of minority disadvantaged students based upon the particular area of the state they were from. Less than 50 percent of the students from any region of the state, with the exception of the southern region, experienced academic success.

However, a significant number of minority disadvantaged students were from the New York City and Long Island areas. The conclusion here is that whether a minority disadvantaged student was from a particular area of the state made no difference in the attainment of academic success.

ETHNICITY

There is, within this study, a significant relationship between ethnicity and academic success. Spanish surname students did much better than the other two groups studied. Forty-nine percent of that group experienced success. Native American students had a 45 percent success rate. Black students, who comprised 80 percent of the total sample, had only a 30 percent success rate.

Combined, study subjects had only a 34 percent success rate. This indicates there should be a concern about services and structure of the programs for these students.

SEX

There appears to be no significant relationship between sex and academic success. The male population was 55 percent of the sample (127 Black, 27 Spanish surname, five Native Americans). The female population was 45 percent of the sample (104 Black, 18 Spanish surname, six Native American). The Native American group was the only ethnic group which had a smaller male representation. The two groups were very close in experiencing academic success. Thirty-two percent of the males experienced success, while 36 percent of the females experienced academic success.

AGE

As stated, age of the disadvantaged minority students appears to play no significant role in predicting one's success. However, it is interesting to note that the table shows the students who experienced academic success were slightly younger than the unsuccessful.

HIGH SCHOOL GRADE POINT AVERAGE

There appears to be a significant relationship between high school grade point average and academic success in college. The minority disadvantaged students who experienced success had a higher grade point average than the unsuccessful. The researcher points out that a student with a high school grade point average of 75 (C) or better based upon the results, appears to stand a reasonable chance of experiencing success in college.

UNITS OF HIGH SCHOOL MATHEMATICS

There appears to be no significant relationship between the number of units of high school mathematics and academic success. However, because possession of mathematic skills is important in our society, one would have expected to see a significant difference between the two groups.

UNITS OF HIGH SCHOOL SCIENCE

The number of units of high school science also appears to show no significant relationship to academic success. However, the two groups seemed to have taken less science than mathematics. Again, one would expect to see a difference in the units of science taken between the two groups.

SCHOLASTIC APTITUDE TEST
MATHEMATICS AND VERBAL

There was a very low percentage (20) of the minority disadvantaged matriculants who took the Scholastic Aptitude Tests. The information reported in the results indicates that there was no significant relationship between those who took the Scholastic Aptitude Tests and those who did not. The results indicated that all of the students who took the Scholastic Aptitude Tests scored poorly. Finally, it appears that the Scholastic Aptitude Test is not an accurate predictor of the success for this group of students because 77 percent of the minority disadvantaged matriculants who experienced success did not take the Scholastic Aptitude Tests. Also, the results indicate there is no significant

relationship between Scholastic Aptitude Test and academic success of the two groups.

TYPE OF HIGH SCHOOL DIPLOMA

There appears to be no relationship between type of high school diploma and academic success. The researcher points out that there was a small number of minority disadvantaged students who held a general equivalency diploma. Only 21 percent of those who held a general equivalency diploma experience academic success. Also of those students in the sample who held a regular diploma, only 34 percent experience academic success.

COLLEGE MAJOR

There appears to be a significant relationship between a student's choice of college major and academic success. The research showed that whether a minority disadvantaged student is successful or unsuccessful depends on area of study they have chosen. Students choose college major areas of study for many different reasons. Many times college major choice is because of income or trend or guidance from an outside source. The choice is often made without considering prior academic preparation for the particular area of study.

YEARS BETWEEN HIGH SCHOOL AND COLLEGE

There appears to be no relationship between the number of years elapsed between high school and college and a student's academic success. Only 29 percent of the students who took a

break experienced success, while only 35 percent of the students who took no break experienced success. After the characteristic of years between high school and college as related to academic success is studied, one realizes that the characteristic of age will probably follow a similar pattern. Such was the case. However, the researcher points out that 86 percent of the sample enrolled directly upon completion of high school.

EDUCATIONAL OPPORTUNITY PROGRAM ADMISSIONS INTERVIEW

There appears to be a significant relationship between an Educational Opportunity Program pre-enrollment admissions interview and academic success. Those minority disadvantaged students who had an interview with the Educational Opportunity Program Office experienced greater success than those who did not. Of the students who were not interviewed, the tests used in this study showed a greater number were expected to have success and a lesser number was expected to be unsuccessful. It is clear that if a minority disadvantaged student is interviewed before being accepted to college, the college has a greater chance of increasing the success rate of these students.

PREDICTING COLLEGE GRADE POINT AVERAGE

The coefficient of determination was so small that in practice there can be almost no benefit to using this equation to predict college grade point average.

RECOMMENDATIONS

Considering the findings and conclusions of this study, the following recommendations seem appropriate:

1. Because there appeared to be a small number of successful minority disadvantaged students, in the State University of New York Agricultural and Technical Colleges, it is suggested that all minority disadvantaged students in the university system be counted and that these data be analyzed to see how many are achieving a C (2.0) grade average or better and completed one semester minimum of 12 semester hours.
2. Educational Opportunity Program staffs should become more involved in the academic scheduling process of students in the program. These students should be academically advised by those who are most familiar with their personal and academic backgrounds. Because there is a significant relationship between choice of college major and the success of the student, it is important that the student receive adequate enlightened counseling to help make a reasonable choice.
3. It is a fact that education is a "building block" process; skills are added on top of skills as a student progresses from grade school through college. Because of this, it is essential that compensatory education programs be expanded and improved to assure that the

building process properly prepares a student with the skills necessary for success following high school graduation.

4. Recruitment efforts should insure that applicants who show the most promise for college success are identified. This researcher suggests that once students have been identified that a required interview with the Educational Opportunity Program Office be conducted. This interview would give the college an opportunity to know more about the student and therefore assist in making the decision of whether the college has the necessary support to help the student succeed. This interview could also help in making sure the student has chosen the right field of study based upon proper qualifications and interest.
5. Compensatory education programs at the five colleges studied should be strengthened. The State University of New York, based upon the findings of this study, may also want to consider a review of such programs at all of its campuses.
6. This researcher's definition of academic success, while practical, is limited. It does, however, suggest that attention should be directed toward retention of these students. Monitoring their personal and academic success is important to ensure these students of successful completion of college, and the ultimate goal -- one which many use to define college success -- of graduation.

7. Individual campuses that have Educational Opportunity Programs should be held more accountable to the State University of New York Central Administration for the development and operation of the programs.
8. An effective management systems approach program should be developed for use by the State University of New York campuses that sponsor Educational Opportunity Programs. The concept and programs that have been developed for minority disavantaged students are now at a stage where effective program management is important to the success of the students.
9. Learning environments that are not traditionally designed for the disadvantaged minority student may require changes. These should be reviewed with an eye towards a separate, specialized curriculum, changes in scheduling, more individualized instruction and counseling, specialized tutorial programs and a more flexible means of evaluation.

IMPLICATIONS FOR FURTHER RESEARCH

The findings of this study suggest further research, as indicated by the following recommended questions:

1. What institutional characteristics and services assisted in the success or lack of success of students?
2. Do characteristics such as size of family, and parental education and attitudes, affect the success

or lack of success of minority disadvantaged students?

3. What psychological factors are associated with the unsuccessful minority disadvantaged students?
4. What specific Educational Opportunity Program factors aided or prevented the minority disadvantaged student's success?
5. How can cognitive and noncognitive factors in the admissions process be more accurately measured for minority disadvantaged students?
6. What factors are associated with the choice of college major in the success of minority disadvantaged students?
7. The findings of this study may be compared to similar studies of all minority students, and the entire student population within the State University of New York.

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