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SELECTED EARLY PREDICTORS OF
ACADEMIC PERSISTING OF MINORITY STUDENTS

By
Alex Lee Moore, B.A., M.A.
The Ohio State University
1974

Presented in partial fulfillment of the requirements for
the degree Doctor of Philosophy in the
Graduate School of The Ohio State University

Reading Committee:
Dr. Richard Kelsey
Dr. Bruce Walsh

Approved by
Joseph J. Trivunica
Advisor
ACKNOWLEDGMENTS

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VITA

May 22, 1945 ................................................ Born - West Point, Georgia
1968 .................................................................... B.A., Norfolk State College
1968-1969 ........................................................ Professional Football Player
1969-1970 ........................................................ Columbus Urban League
1970 ..........................................................
1972 ..........................................................
1972-1974 ........................................................ Consultant Experiences

1972 ..........................................................
1973 ........................................................
1974 Workshop Coordinator for State Welfare Department
Tomorrow's Education Now College Motivation Program

PUBLICATIONS

Thesis M.A., 1972, Recruitment of Disadvantaged Students to Traditionally White Institutions
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CHAPTER I

INTRODUCTION

The American society is confronted with one of the greatest educational challenges of this twentieth century. Educators of various levels within our higher education system have had to concern themselves with providing educational opportunities for a larger and more diversified student population. The issue of what criteria should be used in selecting students to attend institutions of higher learning is and has been a debatable topic even reaching the chambers of the Supreme Court. The admissions criteria of the majority of our public and private colleges and universities have been geared toward those students who possess both the academic qualifications and financial background. This admission system has enabled middle class students to gain entrance to those institutions and to maintain good standing.

This system, whether it has been developed deliberately or whether it grew out of the economic, political, and educational conditions of our society, has been an educational thrust for development of traditionally white public and private colleges and universities. It reflects the American society which prior to the late 1960's was oriented toward white, middle class, educationally motivated, college age students.
It is an accepted fact that middle class white America is in need of the educational training that colleges and universities are providing in order to fit into what has been called the most advanced technological and commercialized country in the world. However, the awakening of this country's minority population to the positive advantages that can be reached via the completion of some form of training past the secondary school level, in addition to the civil rights movement of the last half of the twentieth century, has been a catalytic force to public and private colleges and universities to reassess their educational objectives so as to attract and retain students from lower economic and educational backgrounds. The American society's complex industrialized, technologicalized and urbanized institutions' demands for quality workers have necessitated educators to train a more diversified population. Although it is not clear whether an academic awakening or whether the pressure of the federal government has created a need for colleges and universities to recruit and retain people from different economic and cultural backgrounds, the precedent for such actions has been set.

Over the last two decades a number of economic, political and social factors have combined to bring to the forefront of public attention the conditions of underdevelopment among human beings in all parts of the world. Only in recent times have American people become increasingly aware of the economic and social disparities that exist in the United States. Thus the challenge facing institutions of higher learning is to
provide adequate educational facilities to this large portion of American people who traditionally have not benefited from our society's richly endowed universities. This target population of students has been labeled a number of different names, "disadvantaged", "marginal students", or "high risk students."

By whatever term is chosen to identify this target group, they will generally have the same basic characteristics, a lack of motivation, lack of a solid high school academic program and/or lack of financial assistance. They pose the question of whether a college education should be a basic right for all. Like so many of the controversies that abound--this question has no easy resolution. There are arguments on all sides concerning the issue.

The new open admissions policy of some colleges and universities has been termed "higher education's moon shot." As bold as they are controversial, the programs offer educational opportunities to high school graduates no matter how poor their academic records. For example, in New York, higher education is now regarded as a basic right, the same as free primary and secondary education. This may soon be true elsewhere in the country. The open admissions system of the state college confederation in New York is an example of what might become a widespread practice. City University is the third largest institution in the country. It includes ten senior colleges--among them the highly regarded City College (C.C.N.Y.), Hunter College, along with
Brooklyn College and eight community colleges. They have a combined faculty of 16,000 for an enrollment of 215,000. While some forms of open admissions have existed before, City University has gone far beyond all previous efforts.

California has long offered a publicly financed college education to everyone. But, only those students with the very best records can enter the prestigious University of California; a "top-third" rank is necessary for one of the state colleges; and students with lower scores have to be content with a two-year community college and only after successful completion can go on to a four-year institution. Kansas, Montana, Ohio and Wyoming have long had open admissions as a formal policy, but often on a "sink or swim" basis with many freshmen flunking out.

By contrast, it is reported that New York's program is an attempt to recruit large numbers of the "educationally deprived", and to allow thousands of them to go directly into four-year colleges of traditionally high academic standards. Once enrolled, they receive large doses of remedial instruction to help them to succeed.

This system adjusted its admission standards in order to consider the ill effects that ghetto schools have had in hampering the abilities of students to qualify under normal admissions standards. With the start of open admissions in the fall of 1970, some 17,000 students entered eight of New York's senior colleges. Of these, nearly
7,000 would formerly have been unqualified.

Getting a new segment of students into college is only the first part of the problem; keeping them there is even more difficult. A number of the students admitted are in need of remedial work in English or in mathematics in order to successfully complete college courses. Open admissions, say its advocates, emphatically does not mean a lowering of standards for graduation. It simply involves a lowering of admission standards. Everybody would have an opportunity to complete a degree -- but the target remains at the same elevation.

Critics argued that remedial work will doubtless be effective with some but it is an illusion to expect success by running thousands of youngsters through refresher courses in reading, composition and math. How can someone with a ninth grade reading level or lower, be accepted, and within two semesters develop the facility to read Plato or grapple with the complexities of an introductory course in economics?

If remedial programs do not succeed, what will be the consequence? Will many students drop out in frustration? Sowell (1970) reports that the majority of ill-prepared students have had a higher dropout rate than that of better prepared colleagues. Sowell and others cite, however, that massive failure is not likely to occur. "A high failure rate would be a confession of defeat on the part of educators committed to open admissions."

Also, there will be unspoken pressure to keep minority group students in
college lest the university be accused of racism. "The result grading standards will be lowered -- quietly, without any directives."

It is contended that this lowering of standards will inevitably lead to a grievous depreciation of the value of the baccalaureate degree from the open admissions university. Ironically, the students hurt most will be the well qualified minorities who would have done well under the old rules. In the eyes of prospective employers, their academic achievement will be minimized.

All this is not to suggest that nothing can be done about educational inequality. Educators should investigate the possibility of undertaking remedial work on the inner-city schools -- remedying their scholastic deficiencies, so they will turn out more students capable of college. There are those who believe that for remedial classes in basic skills, the high schools remain the best training ground. Improving the high schools is doubtless a long-term task. Meanwhile, educators confront an army of unprepared youngsters, eager to enter college today. Are they to be denied all entrance to the higher academic feast?

The researcher feels strongly that the above mentioned educational arguments pertaining to admissions and recruitment programs which address themselves to those students who suffer some form of educational and financial deprivation needs empirically based validation. The argument for and against is a major philosophic point. Educators must
address the question of whether it is the mission of our colleges to educate exclusively people who are already highly, academically prepared or should they also assume the mission of teaching those unprepared students at their levels of development. It is imperative in programs which address this need to analyze data relevant to prediction of success in them.

The Problem

The Ohio State University initiated a special recruitment effort for minority students in the late spring and summer of 1970. One hundred-seventeen students were systematically recruited to attend the University by fellow students of the University without any major criteria other than those students recruited be a minority high school graduate, resident of Ohio and having a financial need. Previous research has investigated the impact of supportive services on facilitating educational opportunities and academic success of disadvantaged students after the completion of two academic school years. Specific emphasis in those studies was given to difference between grade point averages, the amount of financial awards packages, and the effects of supportive services. The thrust of those studies was to empirically ascertain the significance of those mentioned factors.

Some of the previously mentioned research data showed no significant difference as a result of supportive services in the target
groups studied and clearly indicated the need for further research to ascertain those factors that do contribute to the success or failure of disadvantaged students in colleges and universities. Additionally, the need for research that could empirically identify relevant characteristics of disadvantaged students who are successful has been dramatized via other research efforts.

Specifically one problem that needs to be studied is the determination of variables common to disadvantaged students who did successfully compete in an institution of higher learning and variables common to those disadvantaged students who either fail to meet the standards or who choose alternate vocational and career objectives.

Counselors and others who are involved in compensatory educational programming may have already identified some of those variables and trends associated with disadvantaged students who compete successfully with The Ohio State University and other institutions of higher learning. However, there is need to determine other selected factors which identify characteristics and programmatic support which enhance disadvantaged students' opportunities in institutions of higher learning.

Statement of the Problem

It was the purpose of this study to determine the relationship of selected variables describing minority students and the condition of their surviving or not surviving four academic years at The Ohio
State University. The study addressed the following questions:

I. Is there a significant difference in selected demographic variables between the two groups of minority students, survivors and nonsurvivors?

A. Age
B. Sex
C. Racial composition of high school
D. Dormitory living
E. Commuter student status

II. Is there a significant difference in selected academic variables between the two groups of minority students, survivors and nonsurvivors?

A. Number of Black curriculum courses taken
B. Enrollment in academic skill courses
C. Tutorial assistance received
D. First quarter grade point average
E. Choice of academic major made or not made
F. English 101 grades

III. Is there a significant difference in American College Test (ACT) scores between the two groups of minority students, survivors and nonsurvivors?

The study sought to determine which selected variables are early characteristics of survivors and nonsurvivors and to rank them in importance in predicting success of similar populations.

Rationale

The rationale for the study includes concerns specific to the program investigated and concerns that are general to other similar ones. One of the prevailing issues in higher education is the effort to expand educational opportunities for minority students. The
admissions criteria used by various colleges and universities for the selection of minority students who may range in academic skills and backgrounds from the superior students to high risk students is a debated topic among educators. The most commonly used criteria for admissions have generally included the following list of variables:

1. High school grade point average
2. High school class rank
3. American College Test scores
4. Scholastic Aptitude Test scores
5. State residency status
6. High school counselor and principal recommendations
7. Personal interviews
8. Type of high school attended (college preparatory)
9. Sex
10. Race (Note: race used in special recruitment efforts)

Often these criterion are employed for admissions on a personal basis with assumptions not clearly tested. Furthermore, the same criteria constitute the bulk of the data which are administratively handy. More often than not, they are also used in programmatic decisions following admissions with little testing of assumption behind their use.

It is the programmatic use of this date and other variables early in the college career of minority students that this study attempts
to investigate. These commonly used pieces of information constitute the supposedly objective demographic and academic items which would be seemingly impervious to bias. However, actual experience in program operation such as Project 100, tends to show that these variables are often shaped in their influence by staff without substantiating data. Decisions that greatly affect the students are subtly and openly influenced by perceptions of the weight of those variables in predicting student progress. This study sought to determine more objectively the significance of these variables in early prediction.

Two important dimensions appear in the study. The first has to do with the exclusive examination of comparatively objective data. No attempts were made at this time to elicit attitudinal data or more subjective personality descriptions. The effects of the latter type need also to be studied. Often these variables influence student behavior and program operation. A second aspect of the study is the early determination of predictors. The crucial months of a student's college career are his early ones. If accurate predictions are possible early in a student's program vital student adjustment or program change can be made to insure success. If information can be gleaned which prior to enrollment, then the vital first months can be utilized to assist students.

Of even more significance is the impact of these predictive
data on program administrators. The implications are twofold. First, studies of this type will stress the need for empirical evidence to supplant personal bias. Secondly, the empirical data can give direction to administrators in program development.

Programs such as Project 100 are common in their origin and programmatic thrust. They generally offer educational opportunities to minority students who may not have been able to gain entrance to or achieve academically in institutions such as The Ohio State University. The literature reports the numerous educational obstacles that both the students and those institutions willing to enroll them have faced during the developmental phases of these programs.

It was the purpose of this study to provide empirical evidence that can be used by colleges and universities involved in minority students recruitment and academic support efforts for prediction and achievement indicators. The variables tested in this study were based on long term non-attitudinal descriptions of the target student population. Therefore, they are less subjected to the short term shifting. They would tend to apply to minority students of similar backgrounds and be less likely to render this study's findings obsolete.

Limitations of the Study

Implicit in this study was the assumption that the target population of minority students in Project 100 was a representative sample of
minority students in the State of Ohio. Although the sampling technique or the mode of selection of those students was quite systematic, there is no record to show that the selection process rigorously followed the usual inferential techniques that guarantee representativeness. Generalizations of minority students in Ohio must be considered as approximations or guarded inferences.

Another limitation of the study arises from the inherent limitations of the statistical technique used in analyzing the data. The statistical technique used is Discriminant Analysis. Some of these limitations are:

1. Need for large sample size in order to guarantee stabilities of mean values and pooled within groups variances and covariances.

2. In general the mathematical constructs associated with Discriminant Analysis techniques are not always congruent with the desired conceptual socio-economic psychological meaningfulness.

3. One of those mathematical constructs is that the Sums-of-Products (SP) Matrices must have the property of non-singularity. (A matrix is said to be nonsingular if it has a nonvanishing determinant.) Nonsingularity of SP Matrices implies that their classical canonical form must be positive definite; a property not always attainable in real life.

4. Discriminant Analysis cannot be used for comparing overlapping groups such as groups whose members simultaneously belong to more than one group.

In spite of the above listed weaknesses of Discriminant Analysis, it is the most powerful tool for analyzing group differences.
Another limitation deliberately imposed was that which restricted the parameters of the study to: (1) variables available and used early in the program in which the sample resided and (2) the most conservative view possible of the implication drawn from the study. The nature of the topic, minority students in higher education, lends itself to far reaching and often confusing and erroneous conclusions. This limitation was an effort to provide sound substance data with a minimum of unfounded conclusion, however meaningful they might be. Thus the study drew observations gleaned from the conduct of the research in the actual work setting and label this information as observations only.

**Definition of Terms**

For the purpose of this study when the following terms are used, they are defined as stated.

**Culturally Different:** Those who are of a national origin, race or religious background which is different than the majority of the residents of Ohio.

**Economically Disadvantaged:** Those students whose family income falls below a set standard (determined by government regulations for the Financial Aids Office), who cannot provide the income necessary to help assist the student pay the cost of attending a college or university.

**Special Recruitment Effort:** The combined effort of the Admissions
Office and the Financial Aids Office in attempting to recruit minority and other disadvantaged students to Ohio State University.

**Monetary Commitment:** The dollar commitment made by the administration at The Ohio State University toward financing the Recruitment Program.

**Non-Intellectual Criteria:** Those qualities that one might possess in the form of desire, motivation, sensitivity and personal awareness, which are equally as important as academic backgrounds in determining the success of students in college. They are often determined through (1) counselor recommendation and (2) extra-curricular activities.

**Academic Advisor:** A person employed to help students with personal problems.

**Reading and Study Skills Specialist:** A person employed to help students improve reading and study habits, for example, the University Counseling Center.

**Counseling Course or Subject:** A course of studies designated as "counseling" by the college or university.

**Freshman Foundations:** A program developed in 1971 to increase the number of Black students at Ohio State University. The program is under the sponsorship of the Office of Minority Affairs and University College.

**Fulltime Counselors:** Those counselors who occupy counseling
positions which require them to be on the job on school days, throughout the regular school year, for at least the number of hours the University is in session.

**Special Courses:** Special courses added to the freshmen curriculum for Project 100 students. They are:

1. Psychology 120. Reading and Study Skills course.
2. English 120. Specially designed to enhance students language skills.
3. Mathematics 294. Specially designed to provide a math base for those students who are deficient.

**Survivors:** Those Project 100 students who survived four academic years at Ohio State University and were enrolled as of Spring Quarter, 1974.

**Nonsurvivors:** Those Project 100 students who because of academic, financial and personal reasons did not complete four academic years at Ohio State University. No attempt was made as a part of this study to determine current status of nonsurvivors.

The present chapter has included sections devoted to: (1) An introduction to the study under investigation, (2) A statement of the problem, (3) Significance of the problem, (4) Rationale, (5) Limitations of the study, and (6) Definition of terms.

Chapter II will review the relevant aspects of the literature in a manner that will provide for the greatest relevance for the study
under consideration. Chapter III will describe the methodology, instrumentation and statistical procedures. Chapter IV will report the findings obtained from the statistical analysis of the data and Chapter V will summarize the findings and make recommendations for further research.
CHAPTER II

REVIEW OF RELATED LITERATURE

It is only quite recently that the questions concerning the admissions of minority students to higher education institutions have come clearly to the national consciousness. This chapter contains a review of the literature pertinent to this study. It is organized in two sections: (1) general study of the status of minorities in higher education including a survey of admissions criteria and procedures and the effects and implications for minorities (2) general discussion of issues relating to the composition and effectiveness of compensatory education programs.

The review of literature contains general statements as well as specific items from activities educators in the field of higher education for minorities. Specific data on individual schools such as their admissions criteria are not enclosed in this review. A summary of this chapter is offered including the relevance of the review to the study.

Survey of Minority Status in Higher Education

Since the Coleman Report dramatized the low representation of minority youths on most campuses, subsequent studies have demonstrated the effect of extensive minority recruitment. Census data indicated
that the proportion of 18 to 24 year old Blacks in all colleges rose from 8 per cent to 15 per cent in the period 1964 to 1968, (Census Bureau, 1969). Despite widespread effort and substantial gains, most colleges remain essentially segregated. Black students only constitute less than 3 per cent of the total undergraduate enrollment in traditionally white universities.

The question of who attains higher education is more than a matter of admissions requirements or even finances. It is a question of who does or should aspire to higher education opportunities. This aspiration depends on more than just talent. It depends on society's total concept of what education means and what it can expect to accomplish (College Admissions and the Public Interest; B. Alden Thresher). Thresher states further that the effects of parental guidance and neighborhood influences dramatically shape and move the attitudes of young people toward their aspiration to higher education opportunities.

Admissions criteria have been developed around the social norms that contain and interact with the world of higher education. The trend in colleges and universities admissions criteria has begun to change. Those admissions standards have adapted and recognized both cognitive and affective attributes of potential students in the selection process. A shift toward providing educational opportunities for Blacks and other minorities has created an influx of minorities on traditionally white
It has been viewed that in order that the predominantly white universities and colleges increase their Black and minority enrollment intellectual and nonintellectual variables would be employed in admissions selection procedures in order to help facilitate and enhance minority and disadvantaged student enrollment. (See Appendix A)

The data support the academic necessity on the emergency of minority recruitment programs. Davenport (1972) stated, however, that with the increase in the number of minority and disadvantaged students enrolling in institutions of higher learning due to the attempt by these traditionally middle and upper class institutions to include Blacks, Chicanos, Indians and low income whites in their student population, there will be new and grave needs. These students will bring with them all of the cultural and social ramifications of their positions in a society which has systematically excluded them on the basis of their ethnic backgrounds. He further cited that something must be done to keep the partially open door from becoming a trap door that drops minority students back into society as failures without degrees or marketable skills. Educators must institute programs of supportive services to insure that all Black and disadvantaged students will either obtain a college degree or suitable job skills for the world of tomorrow.

Kitano and Miller (1970) report that the following processes:
recruitment procedures, admissions procedures, tutoring and counseling, housing and transportation, and financial assistance have become an integral part of the typical educational opportunity program for minority and disadvantaged students. The thrust of these programmatic endeavors has been geared toward facilitating the academic and social adjustment of minority and disadvantaged students the traditionally middle class oriented colleges and universities. Those institutions have shifted their educational objectives to enhance the educational opportunities of minority students. Godard (1969) cited how the lack of such commitment on the part of colleges and universities would be disastrous for disadvantaged students.

Previous references have outlined the importance of institutional commitment and compensatory program support for enhancing disadvantaged students' opportunities in colleges and universities, the variables relating to the educational and cultural background of the students are perhaps equally if not greater in importance in the success of those students.

Darlington (1971) cites how traditional mechanisms for testing vary in the degree which they discriminate among various cultural groups. This fact indicates that other variables may weigh heavily on the success of disadvantaged students ability to compete in colleges and universities, especially if students have been subjected to the mentioned systematic and educational deprivations.
The individual profile of disadvantaged students as it related to the economic, demographic, educational and parental influences are important variables that need identifying so that existing educational opportunity programs and compensatory education programs may rejuvenate when necessary their programmatic thrust toward facilitating the educational opportunities of those students. There are a lack of data on what variables are relevant and correlate with the success or failure of disadvantaged students in traditionally middle class institutions.

All too often higher education has been interested in only academically talented minority students; however, there were some provisions for a small number of students who did not meet those high admission standards. Some colleges admitted these students in exceptional cases. The general philosophy that guided the majority of the colleges and universities, however, expressed very little interest in students who were considered "average" or "marginal." In most cases these students were discouraged from applying for entrance to colleges or were rejected. Fine (1946) summarizes that prevalent attitude and policy of recent years when he stated the policy of the College of New Rochelle, New York, was "we have no provisions for poor students and this is not the place for them."

The underlying admission philosophy which most colleges and universities operated from was the assumption that only the qualified
student should be accepted. On the other hand, a number of midwestern state universities admissions policies were more liberal than those of the more traditional eastern colleges and universities. The state colleges had an open admissions policy but in reality a "sink or swim" academic approach which quickly weeded out those students who were not prepared to compete for various reasons.

The admissions requirements that were adopted for so many years by colleges can be traced to colleges like Howard and most of the earlier colonial colleges who were founded as theological institutions. Students entering had to go through examination procedures which were an oral examination by the president or the senior tutor who examined their character and background. The student was then questioned on his intellectual attainments to speak Latin verse and prose on sight, and decline perfectly the paradigms of nouns and verbs on the Greek tongue.

Fine (1946) cites the tremendous rejuvenation of college entrance practices that make those procedures far superior than in the past. However, data supports the findings of Astin (1969) who concluded that in his judgment the model of selective admissions based on test scores and grades is inappropriate for institutions of higher education. The challenge of Astin's view is that institutions need to become more concerned with educating students rather than simply becoming experts in successful students.
The challenge facing higher education is to prepare young people from all aspects and levels of our advanced technologically and socialized society and facilitate their development via the educational process in order that our society continues to advance. It is recognized by educators that the responsibility of society is to prepare young people for leadership roles, or suffer from uneducated, miseducated and frustrated individuals. There is a need for programs which will give individuals the opportunity to realize their potential to become self-actualized productive people. This type of assistance enables one to function in society at a level compatible with their realized potentials.

Moore (1972) cited how the present period in higher education history is significantly representative with a large number of colleges and universities having addressed the plight of minority student status in traditionally white institutions via the development and implementation of a variety of recruitment programs. They differ in their admissions criteria, financial packages, and supportive services and the size and scope of their institutions commitment. However, they share the commonality of attempting to surmount years of institutional neglect toward a target population that has suffered educational, financial and environmental deprivations by reassessing their institutional educational priorities so as to actively recruit and attain these students. Earlier research has shown that the degree of success of these different institutional
approaches has been depended on a multitude of variables which this
researcher is attempting to empirically verify the significant positive
and negative factors that contributes to successful matriculation of
those minority students.

Sedlacek (1974) conducted a national survey of minority student
admissions for the fifth consecutive year. The study found that fourteen
schools with the greatest increase in new Black freshmen over a four
year period were compared with thirteen schools showing the greatest
enrolled decreases on items relating to their methods and programs.
Results from 109 of 110 schools (99 per cent) indicated that new Black
freshmen enrollment has increased 6 per cent nationally in the fall of
1973, compared to 5 per cent in 1972, 4 per cent in 1970 and 1971, and
3 per cent in 1969. The middle states have made the greatest gains
since 1969 (13 per cent versus 6 per cent). Schools are tending to use
high school record and standardized tests (ACT, SAT) to admit all
students more than in the past few years, but less weight is being given
such variables or recommendations in admitting Blacks to special
programs. Additionally, many fewer schools are using different
admissions criteria to admit Blacks to regular programs (14 per cent
in 1973, 26 per cent in 1972, 20 per cent in 1971, 36 per cent in 1970
and 45 per cent in 1969) despite evidence that the same admissions
criteria are not equally fair for all students. Special programs for
native American and Spanish-speaking students have increased while special programs for Blacks have decreased in the last few years.

The question of which approach is most effective in enrolling Black students in white institutions is often asked in academic circles, Sedlacek (1974) found that the schools most successful in enrolling Blacks tended to emphasize academic programs (special or general), while the least successful schools tended to emphasize money in recruiting Black students. Also, schools that were able to streamline red tape and admit Black students on the spot were more successful in enrolling Blacks. A very significant factor that Sedlacek reported is that public institutions are admitting more Black freshmen students (7 per cent versus 6 per cent) than private institutions. This researcher feels that the social trend of minority student admissions to larger public institutions documents a significant philosophical shift in the public institutions that creates an equally important challenge for those administrators, academic faculty members, counselors and others who are charged with the education of Black students. They are confronted with addressing the academic and social needs of a target group of students whose academic preparation may range from poor to excellent, who may be highly motivated to lowly motivated, and lastly a group who historically have suffered educational, social and economical deprivations. This group brings forth their uniqueness and intellectual gifts with a cultural
relevance not akin to the traditionally white institutions. They will call for a rejuvenation of a number of educational components within those institutions in order that the institution might better serve their diversified student population's educational needs.

The researcher feels that counselors, counselor educators, and other academic types that are involved in the matriculation of minority students in traditionally white institutions are faced with many problems, basic educational myths and misconceptions. Sowell (1972) cites while there have been a dramatic quantitative change in the admissions status of Blacks, a doubling of Black students nationally, with tenfold increased being common at prestige institutions--the majority of change has been qualitative.

Official reports on special programs for Black students not only do not tell the whole story, they are themselves a major camouflage effort in many cases. Almost invariably, they are written by people who are involved in the programs they are evaluating. At the same colleges where officials reports paint a glowing picture of success, private discussions among faculty members and administrators often paint a picture of despair and desperate efforts to prevent widespread failure from becoming total disaster. Sowell's example of Cornell's special program has been a great success according to its administrators and according to "well-planned stories" in the press, but a statistical
study showed that one half of the Black students in its program had grade averages so low as to be on some form of academic probation. Similar statistical reports at Wayne State and Chicago found that an alarming high percentage of their Black students were not in good standing. He further cites that at most colleges, school officials manage to keep such reports under lock and key and well away from the public.

A number of educators, some of them Black, such as Thomas Sowell, have articulated and attacked the influx of unqualified minority students into traditionally white institutions at the expense and exclusion of qualified minority students who Sowell (1972) claims are denied admission and financial assistance. He cited the case of a university who denied admission to a Black girl with College Board Scores in the top one per cent, the justification was:

Her cultural and educational background does not indicate deprivation to the extent necessary for qualification as a disadvantaged student. In spite of the fact that both her parents are laundry workers, she has been adequately motivated by them to a point where she has achieved academic success and some degree of cultural sophistication...

In academic rhetoric such students are labeled "middle class", regardless of the type of poverty that they come from and have been not heavily represented in a large number of compensatory educational programs that offer academic and financial support.

Does this mean that top qualified schools cannot find Black students who are capable of handling their demanding work? The researcher
feels that this is one of the myths that needs to be exposed. The tragic irony is that current recruiting and admissions practices overlook, by-pass and even reject outright very capable Black students in favor of less qualified Black students who fit a more fashionable stereotype. Sowell (1972) felt that the above philosophy and policy leads to the educational failures which are either covered up or attributed to "cultural deprivation."

There are many ways in which academic failures can be disguised: (1) students may be steered away from difficult courses, instructors or majors to easy courses (2) incomplete grades may be handed out instead of failing grades and (3) a student who would otherwise be flunked out of college may be given "another chance." He may even be allowed to "voluntarily" take a leave of absence from the school "temporarily" and never return. In this way official attrition rates are kept low on paper, regardless of how many "wasted years of their lives are left with lasting scars."

One might easily disagree with the phrase that time spent in a college without obtaining a degree is wasteful. The researcher feels that even those Black and other minority students who are admitted to various institutions with academic differences well below what is needed of a student to successfully compete within those institutions cannot be termed wasteful
The development guidance approach and other theories that address the developmental sequence that young people undergo attest to the fact that during a period of poor academic performance or failure, those students are experiencing some form of growth which when realized should be beneficial in their life process. Whether they realize their growth or inadequacies and become self-actualized and functioning individuals cannot be measured solely by a head count of how many graduate from high education institutions. However, an effective measuring device for their adaptability to survey the academic environment is easily measurable in terms of whether they graduate or not.

Another example of how academic failure may be disguised is the frequently reported occasion when a compensatory program counselor or academic advisor has admitted phoning around to individual faculty members to "reconsider" failing grades they had given some Black students, and to suggest that they might not be able to accurately "interpret" the exams written by students from such different backgrounds. The reality of a double standard system which critics state create more havoc both for the minority students that are being cheated and the other student population which is being educationally, qualitatively discriminated against. Those who support a double standard system argue that this is a way to remediate the deficiencies of the past and to help those
students who by society's inequalities have been deprived, to successfully adjust to the white institutions.

A white faculty type was quoted as saying, "I give them all A's and B's; to hell with'em." At least he understood the eventual consequences of a double standard. This does not mean that Black students are having an easy time going through college. The fact is that few students go through so much anguish for so little education. There are many obstacles and struggles to be fought out within themselves relating to their social economic backgrounds that have therefore influenced behavior attitudes and educational aspiration. The strain created by interacting in a majority white environment filled with ambivalence and racial conflict as well as competing in academic environment with students who have received much better preparation from early childhood. Counselors and others who work with minority students could never claim that those students have an easy time of the college experience. The argument continues with those who voice the feeling that placing unqualified Black students into this situation is like placing or "throwing the kids to the wolves." Similar comments come from all sorts of institutions from coast to coast, from whites and Blacks, moderates and militants.

Academic arguments address not only the rationale for recruiting Black and minority students, but also question the standards applied to
the selection of those students. The argument asks whether compensa-
tory education and recruitment efforts which address the academic needs of a target minority student population which suffers academic deficiencies may neglect a target population of qualified Black students whose board scores and high school grade point averages indicate a higher probability of succeeding. This necessitates a thorough scholarly investigation.

In order to further illustrate the growing amount of support for the theory that special recruitment efforts should gear more for the academically qualified Black student and the consequences neglecting these students. There is a statement a high school counselor in New York City made which read:

Guidance counselors and college advisors in city high schools are becoming painfully aware that the competent Black student is all too often by-passed in favor of the academically unqualified student. She further cites how ironic it was for a young man or woman who succeeds in overcoming the effects of economic and educational deprivation by dint of tremendous efforts, self-discipline and perseverance should be penalized as a result...

One problem that has developed because of this condition can be characterized as a lowering of morale which may encourage mediocrity and delinquency in some Black students.

Sowell (1970) argues that those institutions who defend their policy of neglecting those Black students whose test scores are above average or who are middle class are in reality gearing their admissions criteria on nonintellectual basis and have not diligently searched for
those above average students.

Colleges miss many able Black students not only in cases where their special programs favor the less able, but also because many of their recruiters see their job as maximizing the Black "body count." It is estimated that 100,000 Black students who score above the national average are available for a large number of these institutions to have an adequate Black student population on their campuses. Proponents of this view state that the number of academically capable Black students is significant enough so that the leading colleges and universities could have as many capable Black students without underprepared students who must be maneuvered through to a degree, at a painful cost to these students and the institution.

Tens of thousands of qualified Negro students are available from one organization alone, the National Scholarship Service and Fund for Negro Students. That organization reports that they are referring well over 60,000 students to various colleges and universities. A college can specify to that agency what board scores they want in addition to other demographic data that they might utilize in the recruitment and compensatory program specifications.

Difficult as it is to get admissions and financial aids officials to select the most able Black students among those who apply so as to maximize the educational investments payoff, it must be recognized as
well that severe recruiting problems and deficiencies may eliminate many highly qualified Black students before they reach the state of applying to good schools. Jenkins cites that the lack of information about applications, procedures grants, and referral agencies are a major hinderance for Black students. This applies even to academically brilliant students.

Fear is another obstacle, fear by the students, their parents and high school counselors. Southern counselors sometimes feel that their job is to "protect their students from the evil North." and they may carry this as far as preventing northern recruiters from meeting the students, openly or indirectly. Parents often fear that their children will fail socially, will not return home, or will lose their perspective, their religion, or their virginity. The students themselves fear many things from the general fear of the unknown to the great unspoken fear of not being able to compete.

Very few Black students have been groomed for high caliber academically oriented colleges from childhood. College itself is a strange enough notion to get used to, without confronting them with white competitors from the top public and private schools in the country. While these fears are likely to be greater among Black students than among white students of the same level of ability, the Black students have far fewer means of combating these fears. How many Black students know
of anyone who has gone to Princeton, Harvard or Brandeis who might reassure them or give them the benefits of their experiences? Their teachers have typically graduated from institutions far below this level and their parents may never have set foot on a college campus at all.

The cost of recruiting an able Black student is likely to be much higher in cost than the cost of recruiting white students of the same ability. There are far more social and institutional channels which bring the able white students application to the Admissions Office of a good school almost automatically. Not only does the Black student know less about the top quality colleges, they know less about how to reach him. Their alumni are seldom working or teaching in Black neighborhoods, much less live in them. Their contacts at a prestigious institution may go back many years, but any contacts in the ghetto are few and very new, if they exist at all. Perhaps the most important of all, the academically able Black students are more widely dispersed among hundreds of thousands of other Black students who have not achieved comparable academic standards. Jenkins, who has done more research on exceptional high I.Q. Black students than anyone else, reports that such students are less likely to be known to their teachers or other high school officials than their white counterparts, as well as less likely to have adequate guidance counseling.
Beyond this, however, several formidable obstacles that had traditionally impeded the entry of Blacks into higher education has to be faced. The first of these, of course, was simply money. Economic status always has been, and still is, a prime determinant of who will attend college in 1968 according to census data, the median income of Black families was $5590 compared to that of $8937 for white families. In that year about 50 per cent of all American college and university students came from families on the highest income quartile and only about 7 per cent from the lowest quartile where, incidentally, 45 per cent of Black families then found themselves, though the situation is now improving.

The contrasting academic and social viewpoint that clamors for an increase in the recruitment of academically deficient Black students has been echoed even more strongly than the thereto mentioned arguments for an upgrading of admissions criteria for Black and other minorities recruitment and compensatory education programs.

Pfeifer (1973) reported in *The Higher Education of Blacks in the United States*, an historic overview dating from 1619 to 1973 the social, economic and educational struggles in America for Black people. His collection of data is relevant to this study and provides a chronological and historic summary that helps one understand the viewpoint of those in higher education that have fought for open
admissions for minority students with full financial aid based on non-academic or intellectual criteria. Briefly, his report cites how slavery and racism created a second class social, economical and educational experience in America for its Black residents. The struggle for Black Americans to gain their status in America has historically been depended on their abilities to obtain quality education and equality via various legislation.

The present day viewpoints of educators who espouse for the emergency of equal educational opportunities for Black and other minorities, which by some has been called a system of preferential treatment, can be traced to the earlier arguments of people like W.E. Duboise. Pfeifer (1973) outlined the importance of Duboise's efforts to obtain support for Black students in higher education and those opponents of these efforts who sought other lesser alternatives rather than a liberal education for Black students have influenced the views of present day opponents and supporters of special recruitment efforts for Black students. He documented reports on the effects of overt segregation, de facto segregated schooling, the Black protest movement, and the legal civil rights battle fought in addition to the earlier efforts of Black and white educators, such as Deboise for quality and equal educational opportunities reflect the political and social pressures that have been instrumental in the current status of Blacks in higher
education. Those conditions are believed to be more influential and supportive of the established rationale for recruiting and retaining ghetto type students to traditionally white institutions. This viewpoint has up to now outweighed the arguments of educators such as Sowell whose theory supports educating basically only academically qualified Black students. The findings of Pfeifer strongly provides a rationale that weakens Sowell's argument. Although there are merits in his argument for an increase in highly talented Black students, it should not be at the expense of those students who have suffered through segregated and second class educational and economic conditions.

Pfeifer's reports support admissions officers who sought alternate ways to measure the capacity of Blacks and other handicapped by poor academic preparation or by lack of the kinds of stimulation provided by middle class background to succeed in higher education. This identification effort proved to be a more difficult task than the former reliance on traditional measures and qualifications for higher education.

Contrary to the fears of some, Pfeifer states that the open admissions and recruitment policy adopted by a large number of white institutions did not result in a tidal wave of poorly qualified new students submerging the university. It did, however, result in the admission of several thousand new Black and other minority students, and even
more white students of working class background, many prepared academically. This necessitated the establishment of compensatory education that adhered to the above, which they undertook with energy, goodwill and success.

A number of American state universities have, of course, by law, always maintained an open door policy for graduates of a high school in their state. This, as previously mentioned, was in effect a revolving door policy because large numbers flunked out the first year. The open admissions experiment in a number of places were different in that they made a real effort to make up for the poor preparation of the new type of student through compensatory education programs. These experiments have, however, in most instances, proven controversial, the ostensible nature of the issue is educational, whether higher education can take on the responsibility of trying to make the deficiencies of lower levels of education for substantial groups of young people who tend to be poor, to be of minority origin, and to have been obliged by de facto segregated residential patterns to attend poor quality, segregated schools without doing harm to its central purposes. The real nature of the issue, however, is probably political and has to do with opposition by some whites who resent Blacks and other members of minority groups toward which they feel superior in getting what they regard as favored treatment. The
fact that more whites have benefited from open admissions than members of any other group goes without much attention.

The true political nature of the issue was well illustrated when Vice President Agnew felt constrained in a speech in 1970 to attack open admissions in these words:

Any attempt to subordinate the great universities to social goals for which they are ill designed can only result in tragic losses to both those institutions and the nation.

This was music to the ears of some Americans who normally would shed tears over the fate of the universities.

Despite these obstacles to the entry of Blacks into predominantly white higher education, their enrollment there has moreless climbed rapidly in recent years, to a point where according to recently released Labor Department statistics, almost the same proportion of Blacks as whites completing high school in June, 1972, entered college in September of that year--47.6 per cent for Blacks and 49.4 per cent for whites. This virtual parity always remembering, of course, that fewer Blacks than whites reach high school leaving level, was achieved by a substantial increase in the proportion of Black high school graduates who decided to go to higher education and an unexpected decline in the proportion of whites.

Nevertheless, admissions officers in leading institutions have recently warned of a declining commitment on many predominantly white campuses to enroll Black students, especially where this means
giving financial aid to them at the expense of white students. This suggests that Blacks may increasingly be obliged to attend lower quality, moderate cost four-year colleges or more probably, low cost two-year community or junior colleges where 40 per cent of Blacks are already estimated to be enrolled. Although community college programs are well suited to some Black students, there is the fear that if financial or other circumstances force too many of them to go to these institutions, Blacks will fail to get a fair share of high level training and hence, high level executive and professional jobs.

Earlier discussion included the myths and problems counselors and other academic personnel involved in compensatory education programs are confronted with which Pfeifer (1973) addressed via an overview of the evolutionary stages of Blacks in the 1960's on the white campus.

This study investigated selected variables. The review of literature shows that in regards to admissions criteria of various institutions both private and public that a large number of different variables are employed to determine entrance eligibility. Additionally, the literature reported that a number of public and private institutions employ selection processes for screening students for special programs primarily designed to recruit and support academically, minority and other students who have experienced some form of
educational or economic deprivation. To a great degree those admissions policies have been developed to measure the high school academic performance levels, various scholastic aptitude tests proficiency levels, and the subjective evaluations of teachers and counselors as a part of a selection mechanism employed to accept or reject student applicants to institutions of higher learning.

The literature reported also that to a significant extent a number of variables having contributed to formulating admissions standards for a number of institutions which at times have acted as educational hurdles for Black and other students from lower socio-economic backgrounds from gaining entrance to institutions of higher learning. Gains made in the number of minority students status in traditionally white institutions were surveyed along with various opinions of educators in regards to their philosophical and programmatic views for facilitating educational opportunities for Blacks and other minorities. The literature reflected the different points of views held by those in higher education concerning the best possible way of selecting and supporting minority students entrance and success in institutions of higher learning.

The lack of empirical evidence to support or reject subject evaluations, bias or nonrelevant testing measurements, and other commonly used variables for educational program selection procedures
have been reported by the first section of the literature review; this fact adds importance to the findings of this study which will be reported in Chapter IV.

**Compensatory Education Issues**

As the number of Blacks in essentially white colleges and universities began to mount in the late 1960's, it became apparent that there were severe problems of adjustment involved on both sides that have been mentioned earlier. The intent of compensatory programs creates a difficult enough assignment for those who teach, counsel and administrate, yet these programs have been marked with the changing values, political aspiration and social goals and attitudes toward white Americans by those program participants which have had an enormous effect on the success and failure of those programs. The prevailing expectation of white administrators and faculty was that the new Black students would simply conform to the morals, standards and outlook of the majority white culture on campus, much as the few middle class Black students had done in the past.

This however, was not to be the case. The new students fresh from the ghettos, felt strange, lonely, unwanted and fearful in what they saw as an alien and even hostile environment. They withdrew from social contact with whites and sought only the company of other Blacks. They first requested and began to demand separate residential and dining facilities and social clubs. After many institutions granted
them such concessions either voluntarily or under duress, would not allow whites on their "turf" as the expression went. In some cases a kind of paranoia set in which even caused Black students to arm themselves, resulting in police action on some campuses, much unfavorable publicity and a high state of tension. The catastrophic effects of these activities added to the tension of competing academically with deficient academic backgrounds than a large number of their white schoolmates.

On the white side, some students unquestionably were hostile to Blacks and showed it outwardly, but others simply felt rather hurt and puzzled by the Black attitude as did the administrators and faculty. Only slowly did it begin to dawn on whites that their assumption that Blacks should and would conform automatically to the majority culture of the campus required re-examination. Perhaps they began to realize that the majority culture itself had to make some moves in the direction of the minority culture if a harmonious relationship was to be established. This would entail the hiring of some Black administrative staff and faculty members, an attempt to eliminate all forms of racism on the campus, unconscious as well as conscious, and finally changes in the curriculum which would recognize the validity of Black culture and the Black experience in American life. In different ways and varying degrees these steps began to be taken on many campuses and tension gradually began to subside.
The earlier review of the literature pertaining to recruitment and retention of Black and other minority students to previously white institutions has dealt with primarily the programmatic and educational issues of the academic arguments both pro and con for compensatory education programs. There is an urgent need to assess in more detail the sociological factors of ghetto or inner-city students and to review the research in order to replace the speculative, emotive and rhetorical data with more substantial data (Conant, 1961 and 1962) reported that education in the poor section of the inner city has been substandard. Environmental problems, poverty, discrimination, transiency and teacher and parent defeatism have all conspired to give the inner-city child inferior training. Ghetto parents who work at menial jobs in the bowels of the cities, on the plazas, in the factories at night find it hard to return home and lend encouragement to their children to complete elementary and higher education.

By the time a ghetto child has reached eight or ten, he or she has had to learn what is required for survival in his environment and academic learning is not a major requirement. The child receives little guidance from home in which the economic insecurity of parents requires them to work constantly, if able. There is little opportunity to use creativity in pursuits which are deemed beneficial by larger society. The orientation is toward discovering ways to work outside
the system instead of working within it.

While the child from a more privileged home and neighborhood may even in play be preparing for activities which are transferable to the larger society, the child from the underprivileged home and community is likely to be engaging in play which is preparation for beating the system in an illegal way. Kendal (1970) found that the ghetto youth very early sees himself as being and in fact may be, outside the channels of legitimate opportunity, and the only way he can survive is to be armed with a multiplicity of schemes which enable him to outsmart the system. Basically outsmarting means procuring goods and services which are highly desired by which cost the procurer nothing. Thus a prevalent feeling among ghetto students or inner-city students toward higher education is that it may be desirable but it is not necessarily relevant to his life.

The refashioning process that ghetto students undergo via their attendance in inner-city schools which futilely attempt to rejuvenate those students' backgrounds to get the images of middle class backgrounds and aspirations adds to those students ghetto experiences.

If the student reaches junior high school he has by then gotten the message through poor report cards, frequent disciplining, low test scores and teacher indifference to his problems that he is not a top candidate for high school classes. From junior high school on his
only protection is his age which keeps him from becoming a confined dropout and heading for the streets.

Usually high school is more impersonal, chaotic and less relevant than lower school. In the latter, emphasis is placed on acquisition of basic skills and even the boy with the least promise can see that he needs to be able to read, write and figure a little if he is to avoid being cheated in the illegal enterprises of the ghetto. The value of skills taught in high school is not so apparent.

Ekberg and Ary (1968) report that the life experiences of ghetto students does not afford them to see themselves as having a realistic chance of holding the job which requires higher proficiency in which he can use his training, they may not realize the purpose of high education training. Few persons ever tell ghetto students that the reasons they must master mathematics is so they can navigate a ship, pilot a jetliner, build bridges or design skyscrapers. Few people tell him that he must get a good grounding of science because society needs scientists and that society needs him. In the absence of evidence of what he is being trained for the academic training of secondary school has little impact on him.

Jacobson (1968) further mentions how the developmental process of ghetto students when they reach high school are shifted to the vocational skills area since they, if the above mentioned pattern
continues, are not headed for college or a meaningful position in commercial life. They see vocational skills as a dead end for they know of few ghetto persons who are clerks in non-ghetto stores, few who are qualified auto mechanics, sheet metal workers, linotype operators, junior draftsmen or toolmakers. Unionism and discrimination have limited the chances of ghetto people to enter those areas of employment in numbers. Therefore, to the ghetto youth in high school, it makes nearly as much sense to be deficient as to be proficient for he can see in his own community that the proficient as well deficient are locked in the same low status community if not the same economic bracket. Bowman and Kloph (1966) cite that in most cases the standard of living is upon how much is rung from Black ghettos or white employees and not from the level of training one has.

The effects that the slum or ghetto experiences have on minority students who are attending institutions of higher learning has been characteristic by numerous writers. Morgan (1970) refers to the poor attitude toward education that is prevalent in ghetto or slum youth perhaps dramatizes one of the major deprivations that institutions of higher education is confronted with in accommodating these students. Many counselors and teachers of ghetto youth emphasize that the youth are not as fervent in their aspiration for upward mobility as they should be. These students have been beaten
down, confused and alienated. The culture of the "disorganized ghetto" is said to be one of defeatism. The student from that part of town has been forced to live with defeat and uncertainty. His environmental problems are overwhelming and would be a source of constant hurt and anxiety for him unless he developed means of controlling them. To keep from feeling hurt in any type of comparison with others from more favorable backgrounds, the ghetto student avoids the comparison. By this logic, defeat is a normal part of existence and is to be viewed along with other hardships of life. It is not something to get excited about. By setting no external standards he has no one or group with whom he may be compared. Without a standard by comparison with which he fails the student is able to accept academic and other defeats with agony. Bitterness and insecurity develop because of a multitude of frustrations that ghetto youths encounter, such as poor housing, hunger, inferior schools, discrimination and poverty. Additionally, the lack of a stable home life with parental guidance necessitates an earlier adoption of an adult role by the time some of the youths have reached early teens. Further characteristics of those experiences are reflected by the ghetto student's alienated attitude toward his teachers, rejection of middle class role models, the shifting from more demanding academic courses to activity type courses such as dance, physical education, etc.
What is the controversy centering around the relevance of standardized tests on minorities? This question is frequently brought to the attention of counselors and administrators who are involved in educating minority students.

A large portion of the reaction against standardized tests for Black and other minority students is due to the widespread misuse of such tests to prove that Black people are "inferior" or that certain young children are "unteachable" or simply to mechanically evade personal responsibility for making choices and evaluations. It is crucial to keep in mind that the validity of a test is judged by how well it serves its purpose. They cannot be judged as mysterious instruments producing some magical number that will indelibly "grade" an individual or a race.

The use of tests as academic predictors has generally been the rule of thumb for a large number of institutions. One may ask the question whether students in general or specifically Black and other minority students, do college board scores in the high quartiles usually mean higher academic performance than scores in lower quartiles? Are these individuals exceptions? Educators such as Thomas Sowell researches unquestionably that higher test scores mean higher grades, but reiterates that there are always exceptions. Sowell further cites that at Brandeis University where the usual range of
college board scores is 650 to 700. Black students with scores from
600 and up have as a group, substantially higher grade point averages
over four years in college than Black students scoring below 600.

At Cornell University with a similar range of scores, substantially
within that range also averaged higher grades than Black students in
lower groupings. Yet in both cases the reports concluded that there
was no significant correlation between scores and performances; that
neither scores or grades could be used "with any reliability" in
admitting Black students. There was very limited value to any of
the standard academic predictors when applied to Blacks. The reasons
for the above conclusions were that (1) the test score rankings among
those students far below the institutional average showed little
correlation with academic performances, and (2) at both institutions
students in these brackets constituted the bulk of those in special
programs for Black students. The same pattern has been found in
data collected from Kalamazoo College.

The Black students scoring over 600, about average for
Kalamazoo College students, had significantly better grade point
averages (2.7 versus 2.1) than students scoring below 600. However
among the latter, the bulk of Black students shows there is indeed
little relationship between scores and grade averages or attrition
rates. In general, among students who are way over their heads
proponents of compensatory education issues have been guilty of the hazard of generalizing test data and/or utilizing the sociological and political arguments in their formulation of admissions, recruitment and compensatory programs selection criteria. They should in fact, have been maintaining a sensitively objective thoroughly scrutinized evaluation of minority students board scores and intelligence test scores, recognizing that those scores are reflective of the majority culture, automatically placed those individuals outside of that culture seemingly at a disadvantage but when properly interpreted, can be an accurate indicator of how well those minority students have mastered the academic skills necessary for competing in institutions of higher learning.

The careless usage of those measuring instruments without consideration of those heretomentioned sociological, economical and educational variables is clearly the source of one of the many problems that Black and other minority students have been confronted with and that educators of different viewpoints must correct in order to better serve a larger and more diversified student population.

The remaining portion of this review is concerned with the type of academic supportive service that major two and four year institutions are providing and the effectiveness of those services in facilitating the development of disadvantaged and minority students.
Earlier discussions have outlined the challenges facing public institutions of higher education and have listed the pros and cons of open admissions either by choice or legislative action. The conclusion of this review focuses on the disadvantaged student and the involvement of public institutions in special educational and supportive service programs.

The concept of remediation is widely used to describe the academic support for educationally unprepared students and is not new to educators. In fact, one could suggest that the majority of predominantly Black colleges in the South and many of the community colleges across the country have been operating within this framework since their inception. Nevertheless, the influx of large numbers of disadvantaged students into higher education in recent years has strained institutional academic operations.

Richardson and Elsner (1965) criticized remedial courses which they cited as being only slowed down versions of regular courses which have not been sufficiently effective. Gordon and Wilkerson (1966) stated that the dreary pattern of remedial courses has plagued many generations of low achieving students with but little benefit to most of them.

Despite the findings of the above mentioned authors concerning the seeming effectiveness of remedial courses they continued into the 1960's as a primary form of compensatory education. Since the focus
of this study has been geared toward ascertaining individual characteristics of selected minority students, the nature of the supportive services which either facilitate their matriculation or failure in competing academically in a major institution of higher learning. The importance of addressing the issue of the effectiveness of remedial courses or any form of academic and social support for disadvantaged students is paramount in concluding this review. The need for further analysis is crucial especially in view of the fact that as late as 1969 the research findings of Kendrick and Thomas (1969) stated that their results point to the conclusion that existing compensatory programs and practices have made little impact in eradicating the problems of disadvantaged college students nor have the majority of colleges accepted this area as their role.

The researcher's investigation of the findings of The College Entrance Examination Board's Study of the Composition and Effectiveness of the Compensatory Education (1972) or also called, Developmental Education Programs, of 180 community colleges in the midwest, those results are applicable to the different types of programs and their effectiveness as four-year institutions.

According to the survey results, approximately 92 per cent of the day enrolled students were white, 6.8 per cent were Black, and less than 1 per cent were Spanish American and American
Indians. Those surveyed students either participated or had the opportunity to benefit from three categories of activities. They are listed and defined as follows:

1. **Academic Skills Services** - Provisions for students to receive one or more educational services as they have need. These services may or may not be grouped into one particular campus center.

2. **Developmental Programs** - Specially organized programs that include a range of educational services for students formerly enrolled in those programs. (See Appendix B for detailed summary of nine programs.)

3. **Remedial Courses** - Preparatory courses taken within the department structure.

Minority students were found to be more highly represented in developmental education activities than in the student body as a whole but the percentage varied according to the program type. For example, nearly one student in five that has enrolled in a formal developmental program is a minority student, whereas for remedial courses, about one student in nine is a member of a minority program.

Unlike remedial courses, formal developmental programs and special academic skill services are relatively new additions to the surveyed college group. About 80 per cent of all institutions report the use of remedial courses with most indicating such courses have been employed for more than three years. Academic skills services on the other hand, are in operation in just under 50 per cent of all colleges and in over two-thirds of those cases, the programs are
less than three years old.

The report continued by emphasizing that the primary function of remedial courses is to give academic assistance to students in order that they may be better prepared to take certain regular college courses. There are multiple functions of academic skill services and formal developmental programs. The latter functions vary among institutions. The most frequently noted function of academic skill services is providing tutorial help in basic skills, but different surveyed institutions also indicated that their services included tutorial help in specific courses and academic and nonacademic counseling. Very few skills center programs offered courses. Their major functions are academic and nonacademic counseling with a primary emphasis toward tutorial assistance to disadvantaged students.

An interesting factor that may contribute to the effectiveness or lack of effectiveness of the remedial and academic skills programs is the quality of the faculty and other support personnel that teach and counsel in those programs. Rouche (1968) noted that the remedial course teacher was typically younger and less experienced than other faculty, was normally assigned to this position and obtained his learning about disadvantaged or remedial students and remedial instruction through on-the-job training.

Developmental programs were assessed to the most compre-
hensive in facilitating the matriculation of minority and other
disadvantaged students through those surveyed institutions. A major
emphasis of these programs was geared toward providing academic
and nonacademic counseling; over one-half of surveyed institutions
offered complete curriculums and 95 per cent of those enrolled
students took developmental courses in their first term in college.

Basic skills mastery were the most attentively attended
programmatic aspect which 85 per cent of those surveyed institutions
determined as their major program emphasis. Students additionally
are provided personal counseling and tutoring assistance; over three-
fourths of the student participants in those programs received counseling
at least once monthly.

While not exhaustive the preceding review of literature has
attempted to provide the reader with a thorough analysis of the writings
and findings of other authors about the complex and encompassing
aspects of all the issues related to the selection and matriculation of
disadvantaged and minority students to institutions of higher learning.
The importance of this study is perhaps best illustrated by the fact
that there is a lack of compiled data that was available to the researcher
for use in ascertaining those variables germaine to this study.

The researcher feels that educators must confront sensitively
and objectively the realities of social change, ascertain needs of a
diversified and unique student population and recognize their implication for higher education. Growth and learning must evolve from our mistakes and result in the farsightedness to utilize our best educational resources in the complete and absolute elimination of the waste of human resources.

In regards to compensatory education the literature shows that a number of different programs are employed by different institutions, geared primarily to provide counseling, tutorial and academic advising for minority students who meet their admissions criterion. Brief descriptions of developmental education opportunities programs, academic skills programs and remedial programs were discussed along with the views of those current educators most associated with the development and evaluation of those mentioned programs.

A description and review of the demographic and educational variables and characteristic of minorities students from lower socioeconomic backgrounds and the impact they play in the educational process that those students experiences prior and after their entrance to institutions of higher learning were presented. The literature illustrated the importance of the questions that this study has addressed in regards to the impact that certain variables have in determining success or failure of certain groups of students in institutions of higher learning which will be reported in Chapter IV.
Summary

In conclusion, the review of the literature in Chapter II has presented relevant information pertaining to current data on the enrollment status of minorities in traditionally white private and public institutions. A report was presented that reviewed the philosophical, administrative and procedural aspects of admissions policies and criterion. Additionally, the pros and cons of different admissions policies were discussed along with the arguments of various educators concerning the effects of those policies have had in controlling minority students entrance to institutions of higher education.

A discussion also reviewed the relevant issues centering around the programmatic thrust and the effectiveness of various compensatory education programs was presented. A profile of the attitudinal, environmental, educational and economical status of minority students were presented in order to illustrate those variables that influence minority students who are characteristic of the target population must frequently serve via various compensatory education programs.

This review addressed itself to the fundamental questions that this study attempted to answer empirically. They relate to the identification of those significant and educational and demographic
variables that are characteristics of minorities who succeed in four-year institutions similar to The Ohio State University.
CHAPTER III
PROCEDURES, DESIGNS AND METHODOLOGY

The lack of data that can identify significant variables that either contribute or hamper minority and other disadvantaged students from entrance and success within traditionally middle class institutions is the major problem that this study addressed. This chapter contains a description of the procedures followed in the conduct of the study. Included are (1) detailed description of the population, (2) a description of the instrumentation and the variables selected, (3) the procedure for collecting data, and (4) a description of the statistical analysis.

Population

The target population consisted of the 113 minority students who were systematically recruited for Project 100 in 1970. This target population was divided into two groups. Group I comprised of fifty students was referred to as the "survivors." The survivors were defined as those minority students of Project 100 who had successfully completed four academic years at Ohio State University. Group II comprised of sixty-three students was referred to as the "nonsurvivors." The nonsurvivors were defined as those minority students of Project 100 who failed to complete successfully four academic years at The Ohio
State University.

Project 100 students who were recruited by The Ohio State University Black students who were specially hired to identify and counsel Project 100 prospective students.

The population of this study consisted of fifty disadvantaged students who are presently enrolled or graduating Spring Quarter, 1974, and sixty-three students who dropped out and are either enrolled in other institutions of higher learning or have failed to complete their college education.

These 113 Project 100 students were recruited to The Ohio State University during the summer of 1970 after the official cut-off date for the acceptance of freshmen applications. They all met the following criteria:

1. They were graduates of an accredited high school or, if they transferred from another college, they presented a 2.00 grade point average.

2. They were recruited from major metropolitan areas within the State of Ohio.

3. They received financial assistance based on need in the forms of:

a. Educational Opportunity Grants
b. Ohio Instructional Grants
c. Project 100 Grant—special monies designated by the University
d. National Defense Student Loans
e. College Work-Study Program
Instrumentation

Listed below are those variables selected by the researcher as a result of numerous conversations with University admissions personnel, compensatory education personnel, counselors and minority students used in measurement and informational instruments employed by Ohio State University.

1. Age when first enrolled at Ohio State University

2. Sex

3. Race

4. Racial composition of high school

5. Financial aid awarded to student--sufficient or insufficient

6. Number of Black curriculum courses taken at Ohio State University

7. American College test scores (ACT was chosen because it is the instrument used by Ohio State University to gather information from entering freshmen students. The stated purpose of the ACT test battery is to provide a simple way for a student to compare himself with others in a variety of areas. The second part of the ACT battery was utilized for this study also; it consists of four tests that estimate the students ability in English, mathematics, social studies and natural sciences reading. These tests are designed to measure the students knowledge, techniques and abilities to reason in those specific areas.)

ACT English Usage is composed of prose passages with certain sections underlined with four alternatives for each part underlined and the student must decide which one is correct. The test is designed to measure the ability to write correctly and effectively which includes examples in punctuation, capitalization, style, phraseology and organization.
ACT Mathematics Test is a test of mathematical reasoning ability that includes practical quantitative problems as well as mathematical techniques covered in high school math courses. The principle areas are algebra, geometry and arithmetic.

ACT Social Studies Reading Test is composed mainly of reading passages and questions on them that are designed to measure evaluative reasoning and problem solving skills required in the social sciences. Also included are questions on general background information obtained in high school social studies courses.

ACT Natural Sciences Reading Test consists of reading passages on natural science topics and individual items on general background knowledge. Passages and items are sampled from the areas of biology, chemistry, physics, geology and astronomy with the emphasis on biology.

(Student Handbook, 1973)

8. Academic skill courses taken

9. Number of first quarter hours completed by students

10. Major field of study

11. First quarter grade point average

12. Resident hall status

13. Commuter status

14. Second quarter grade point average

15. Number of hours completed at end of second quarter

16. Tutorial assistance

17. Type of hometown (rural or urban)

18. Probation status
19. Academic dismissal status

20. If dismissed, reinstatement status

21. College English grades for English 101

22. College English grades for English 102

23. College English grades for English 103

The final list of variables investigated numbered fifteen. Those not selected from among the data available and the reasons for not being included are as follows:

1. Major field of study was listed as having made a decision or not rather than asking information about the specific field of study. This was done because at the freshman year the decision is tentative until entrance into the professional field at the junior year.

2. Commuter status was not used because it was assumed that a non-dormitory resident was a commuter.

3. Second quarter grade point average and number of hours were eliminated after a visual examination of the data determined no significant difference existed.

4. The variables related to probation, reinstatement, academic dismissal were eliminated from hypothesis testing because the antecedent reasons for their occurrence were so varied to prevent any interpretation other than to determine the fact of probation or dismissal. The lack of consistency in these policies would have confounded attempts to bring clarity to the study. This internal procedure should be subjected to further study.

5. Only English 101 was used since it was the course that the majority of the target population took, thus English 102 and 103 were eliminated from further testing.
Data Collection and Analysis

The researcher had access to the 113 minority students' financial aids awards files, college transcripts, ACT test scores and personal interview data from the financial aids official and the original Project 100 director. As a consequence of these talks it was possible to conclude that all of the students received full financial aids based on their parents' income level. Therefore, the financial aids variables were not included in the study because all of the target population received adequate financial aids packages. An interview with the previous director via long distance telephone conversations and a personal visit was conducted to determine the administrative and programmatic thrust of the program during its embryonic stages of development. Also made was a review of all of the written reports presented to the University official charged with the overall responsibility of administering the Project 100 Program.

Limited personal interviews were administered to individual Project 100 students from both the group of survivors and nonsurvivors. These greatly enhanced the researcher's understanding of those relevant educational and demographic variables germane to this study. They are included in this study as observations.

Following the collection of data it was subjected to a statistical analysis. For statistical purposes the questions posed in Chapter I
were converted to null hypotheses. They were then subjected to a discriminant analysis. These null hypotheses are stated in the study as the following:

\[ H_O^1: \text{There is no significant difference in age between survivors and nonsurvivors.} \]

\[ H_O^2: \text{There is no significant difference in sex between the survivors and nonsurvivors.} \]

\[ H_O^3: \text{There is no significant difference in racial composition of students' high schools between survivors and nonsurvivors.} \]

\[ H_O^4: \text{There is no significant difference in the number of Black curriculum courses taken between the survivors and nonsurvivors.} \]

\[ H_O^5: \text{There is no significant difference in the American College Test composite scores.} \]

\[ H_O^6: \text{There is no significant difference in the English sub-test scores of the American College Test.} \]

\[ H_O^7: \text{There is no significant difference in the Mathematics sub-scores of the American College Test.} \]
There is no significant difference in the Social Science sub-scores of the American College Test.

There is no significant difference in the Natural Science sub-scores of the American College Test.

There is no significant difference in number of academic skills courses taken between the groups of survivors and nonsurvivors.

There is no significant difference in tutorial assistance between the groups of survivors and nonsurvivors.

There is no significant difference in first quarter grade point averages between the survivors and nonsurvivors.

There is no significant difference in having chosen an academic major field of study between the survivors and nonsurvivors.

There is no significant difference in dormitory living status between the groups of survivors and nonsurvivors.

There is no significant difference in grades received in English 101 between the survivors and nonsurvivors.
Rationale for the choice of Discriminant Analysis as the statistical technique includes the fact that when two or more groups are compared in terms of many variables, it is of interest not only to see if the groups differ significantly from one another, but if they differ also to understand the nature of their differences.

Many ways can be conceived to describe group differences. One way—and perhaps the most natural seeming way would be simply to list the variables on which Group I had significantly higher means than Group II, and also the variables on which the reverse were true. Such listings could be regarded as the natural way to describe the differences between the two groups, and (assuming familiarity with the nature of the factors) would present an intuitively meaningful and sensible portrayal of the differences.

Unfortunately, ways of describing differences by listing the measures of the variables in ranked order suffer from technical difficulties which may render the description invalid.

There are many "canned" computer programs available for discriminant function analysis. The one used in this study was the BMD 07 M. In general terms of INPUT and OUTPUT the following is submitted:

**INPUT**

1. Twenty-four control cards VAR 001 to VAR 026
   VAR 001 - Group Name; Group I and Group II
   VAR 002 - VAR 026 are the twenty-five predictor variables
2. Data Cards organized by group and read according to format BMD 07 M

OUTPUT

1. Subject Means
2. Group Means
3. Group Standard Deviations
4. Within and Total Cross Product Matrices
5. Within Groups Covariance Matrix
6. Discriminant Function Weighting Coefficients
7. U Statistic
8. Approximate F and the Mahalanobis Distance Squared - D2
9. Degrees of Freedom
10. F Matrix - Degrees of Freedom
11. Absolute Frequency Distribution of scores on the discriminant function for each group and for the total population.
12. Variables included and F's to remove Degrees of Freedom
13. Variables not included and the F's to enter Degrees of Freedom
14. Within Groups Correlation Matrix
15. Group Standard Deviations
Computational Steps: The computations were executed in the following sequence of steps:

Step I.

The data were read and the following were found:

A. Subject Means
B. Group Means
C. Group Standard Deviations
D. Within and Total Cross Product Matrices
E. Within Groups Covariance Matrix
F. Within Groups Correlation Matrix

Step II.

At each step of the procedure the predictor variables were classified into two disjoint sets; those included in the discriminant functions and those not included. After a sequence of steps, both the U statistic and the approximate F statistic were found. These are needed to test the equality of group means. Tolerance values are also found.

Step III.

This is a particularly important step and is unique to this computer program, BMD 07 M. This step is also of special interest to this study. Because in this step, there is the procedure whereby the predictor variables with the greatest impact can be sorted out and ranked, and those with the least impact can be eliminated altogether.
Step IV.

The square of Mahalanobis Distance of subject $k$ in Group $m$ from Group I is computed. This may be used as a chi-square variable with $r$ Degrees of Freedom for classification purposes.

Step V.

At this step the number of variables which are included after the last step and their total sum of product matrices respectively are analyzed to find the weighted coefficient of canonical variables and the amount of dispersion (eigen values), explained by each canonical variable.

Every hypothesis in this study involved the question whether there was a significant difference between group means for some selected predictor variables. Since the two groups were independent and mutually exclusive (by operational definition), there was only the need to compute the standard error of the difference between uncorrelated means for each hypothesis.

The procedure is as follows:

Step I. Calculate the standard error of a difference between means from the formula

$$d_m = \sqrt{\frac{\sigma_m^2}{n_1} + \frac{\sigma_m^2}{n_2}}$$

where for our study $n_1 = 50; n_2 = 63$

Step II. Set up the $t$ ratio

$$t = \frac{\bar{m}_1 - \bar{m}_2}{d_m}$$
Step III. Set up the alpha-level, i.e., the level of statistical significance. Here we set alpha at .05.

Every hypothesis in this study was treated in null form.

Chapter III contains a description of the population, instrumentation, procedures for collecting the data and a thorough comprehensive description of the statistical analysis. Chapter IV contains the findings of the study.
CHAPTER IV

FINDINGS

This chapter contains a review of the target population previously mentioned in Chapter III and the findings of this study. The findings include the testing of the null hypotheses. The results are presented by (1) stating the null hypotheses, (2) presenting tables of the data of those hypotheses and a report of those data, and (3) providing observations for each hypothesis which includes a more informal presentation of information gleaned in the conduct of this study.

The target population for this study consisted of two groups of Project 100 minority students who were recruited in spring of 1970 by student recruiters as a result of the University's response to the demand to recruit Black students for college enrollment. Group I contains fifty minority students who survived four academic years at Ohio State University. Group II contains sixty-three students who for various reasons did not survive four academic years at Ohio State University. No further attempt was made as a part of this study to determine the current status of the nonsurvivors.

The number of variables to be examined between the groups
totals twenty-five. They are listed as Appendix C and include the
coding scheme used for analysis purposes. The means, grand means
standard deviations of the twenty-five variables of Group I and Group
II are listed in Appendix D.

H
O
1: There is no significant difference in the demographic
variable age between Group I survivors and Group II
nonsurvivors:

TABLE 1

AGE RANGE, MEANS, STANDARD DEVIATIONS AND t VALUES FOR
SURVIVORS AND NONSURVIVORS

<table>
<thead>
<tr>
<th>Group</th>
<th>Group Range</th>
<th>Group Means</th>
<th>Standard Deviation</th>
<th>Critical t value at .05 level</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>17-30</td>
<td>18.960</td>
<td>2.303</td>
<td>1.980</td>
</tr>
<tr>
<td>II</td>
<td>17-34</td>
<td>19.349</td>
<td>2.237</td>
<td></td>
</tr>
</tbody>
</table>

The mean age of Group I is 18.960 and Group II is 19.349.
The standard deviation scores for Group I are 2.303 and for Group
II, 2.237. Since the critical t value at the .05 level is 1.980 and is
greater than the experimental t value, the null hypothesis is retained. There was no significant difference in age between the survivors and nonsurvivors.

**Observations**

A common opinion held by a large number of individuals in education is that older students differ significantly in their achievement levels in institutions of higher learning. The researcher has heard comments of similar opinion from a number of counselors of how age enhances the matriculation process of minority students in institutions such as The Ohio State University. Earlier opinions formulated while working as a minority student recruiter at Ohio State reflected basically the same attitude toward the variable age, that minority students entering the University at age seventeen or eighteen would fare less well than those students in the eighteen to twenty brackets. It is relatively certain that in the subjective admission proceedings which govern selection of students would receive the benefit of the doubt in crucial admissions criteria processes.

The findings of this study on minority students who might be labeled as either marginal, average and/or high achievers found no significant difference in the variable age of Group I (fifty students) who survived four academic years and Group II (sixty-three students) who did not survive the four academic years. The actual average mean
age of Group I survivors was lower (18.960) than the mean age (19.349) of Group II nonsurvivors, however, admissions officers of universities and compensatory education programs should carefully avoid making subjective evaluations about achievement and performance levels of minority students with similar backgrounds based on the variable age.

H O 2: There is no significant difference in the demographic variable sex between Group I survivors and Group II nonsurvivors:

**TABLE 2**

VARIABLE SEX: MEANS, STANDARD DEVIATIONS AND t VALUES FOR SURVIVORS AND NONSURVIVORS

<table>
<thead>
<tr>
<th>Sex</th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>20</td>
<td>27</td>
</tr>
<tr>
<td>Females</td>
<td>30</td>
<td>36</td>
</tr>
<tr>
<td>Group Means</td>
<td>1.600</td>
<td>1.571</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>.495</td>
<td>.499</td>
</tr>
<tr>
<td>Critical t value at .05 level</td>
<td>1.980</td>
<td></td>
</tr>
<tr>
<td>Experimental t value at .05 level</td>
<td>.3082</td>
<td></td>
</tr>
</tbody>
</table>
Twenty males and thirty females made up Group I; Group II comprised twenty-seven males and thirty-six females. A conversion of these variables to statistically manipulated data show that the critical t value for alpha at the .05 level of 1.980 is greater than experimental t value of .3082, therefore the null hypothesis is retained.

Observations

Another opinion held by some educators involved in various forms of compensatory education programming is that female students are generally more mature than male students and fare better in adjusting to the rigorous academic schedules of institutions of higher education.

The researcher has observed that another frequently voiced opinion cites how sex role stereotypes enhance the belief that female students are more likely to have crystallized their career and vocation choices and as a result are better suited to concentrate on their studies. Recommendations written by high school counselors for male and female students of similar academic performance levels in high school, have been observed to mention the maturity level of students as a variable more significant to female students than the male counterpart.

This study's findings showed that female students outnumbered the male student population by nineteen. One might naturally infer
from the large number that female students are more motivated as a group. The survival rate of those who enter who are mentally prepared for performance and entrance into institutions, should dictate caution in drawing conclusions based on sex only.

Another conservative opinion held is that male students are more mature and as a result of societal pressures are geared more to succeeding in higher education because of another sex role stereotype. Those involved in college admissions, academic programming and related areas should carefully note that minority students of similar backgrounds and sex success levels in institutions of higher learning are not necessarily dependent or related to sex.

H0

3: There is no significant difference in the demographic variable of racial composition of students' high schools between the survivors and nonsurvivors:

TABLE 3

RACIAL COMPOSITION OF HIGH SCHOOLS, RANGE, MEANS, STANDARD DEVIATIONS, AND t VALUES FOR SURVIVORS AND NONSURVIVORS

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Range</td>
<td>Yes</td>
<td>31</td>
</tr>
<tr>
<td>(Number attending a majority Black high school)</td>
<td>No</td>
<td>19</td>
</tr>
<tr>
<td>Group Means</td>
<td></td>
<td>1.380</td>
</tr>
</tbody>
</table>
TABLE 3 - continued

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Deviation</td>
<td>.490</td>
<td>.485</td>
</tr>
<tr>
<td>Critical t value at .05 level</td>
<td>1.980</td>
<td></td>
</tr>
<tr>
<td>Experimental t value at .05 level</td>
<td>2.760</td>
<td></td>
</tr>
</tbody>
</table>

From Group I thirty-one students reported attending a majority Black high school and nineteen did not. The mean is 1.380 and the standard deviation is .490. From Group II twenty-three students reported attending a majority Black high school and forty did not. The mean is 1.635 and the standard deviation is .485. The critical t value 1.980 is less than the experimental t value of 2.760, therefore, the null hypothesis is rejected. The racial composition does differ significantly between the groups of survivors and nonsurvivors.

Observations

Much attention in recent times has been geared toward desegregating our school systems in order to foster equal educational opportunities for minority students who because of their socioeconomic position in society are ill prepared to compete in institutions of higher learning. Numerous studies have cited the disparities that exist
between secondary school districts of different socioeconomic back-
grounds and the subsequent educational inequality found in those poorer
school districts. A majority of the poorer school districts are Black
and consist of other minority groups of the same economic and social
standing.

Extensive literature available regarding inner-city schools
tend to paint a very bleak picture. Educators who have not experienced
the ghetto life might tend to view these students from Black schools with
an eye of pessimism concerning their potential in institutions similar
to The Ohio State University.

The findings of this study offer a ray of light to an area that
has suffered through a period of assumptions, myths and generalizations,
namely the achievement of minority students from majority Black high
schools in white institutions. It was determined that those minority
students recruited in 1970 to attend Ohio State University who were
from Black high schools fared significantly better than those who
attended other mixed schools.

Being cognizant that the sample size forbids broad generalizations
of these findings, one can infer that some intrinsic quality or coping
mechanism greatly enhanced Group I over Group II to succeed in the
environment of Ohio State University to a significantly greater degree
than their peers from a more racially mixed high school.
Evidently the intrinsic qualities emphasized more personally in those Black high schools strengthened the students' abilities to compete in a totally new environment. There seemed to be an ever growing sense of pride and awareness of the economic benefit of higher education. The investigation left a strong feeling that the stamina, motivation and verbal abilities of Project 100 students were more important in contrast to some more easily identifiable education skills in which determine success at Ohio State University. This is not to imply that those educational skills were not present or used but to identify effects of other important survival tools.

H0 4: There is no significant difference in the academic variable of the number of Black curriculum courses taken between the survivors and nonsurvivors:

<table>
<thead>
<tr>
<th>TABLE 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLACK CURRICULUM COURSES TAKEN: RANGE, MEANS, STANDARD DEVIATIONS, AND t VALUES FOR SURVIVORS AND NONSURVIVORS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Group Range (Number of Black curriculum courses taken)</th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-17</td>
<td>0-11</td>
<td></td>
</tr>
</tbody>
</table>

| Group Means | 6.000 | 3.016 |
| Standard Deviation | 3.964 | 2.910 |
### TABLE 4 - continued

<table>
<thead>
<tr>
<th>Critical t value at .05 level</th>
<th>1.980</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental t value at .05 level</td>
<td>4.4551</td>
</tr>
</tbody>
</table>

Group I range is 0-17; mean is 6.000, and the standard deviation is 3.964. Group II range is -9-11; mean is 3.016 and standard deviation 2.910. The critical t value 1.980 is less than the experimental t value 4.4551, therefore the null hypothesis is rejected. A degree of difference does exist in variable of Black curriculum courses taken between the survivors and nonsurvivors.

**Observations**

The researcher found that of all of the variables used in this study the number of Black curriculum courses taken contributed more to the success of those students succeeding four academic years at Ohio State University than any other variable. A review of the transcripts of both groups of survivors and nonsurvivors reflected a trend which enabled Black curriculum courses after the first quarter on campus and after, to enhance a previously poor academic showing. The grades averaged by Project 100 students taking Black curriculum courses were significantly higher than other grades received by the students.
in both the survivors and nonsurvivors.

In a number of cases those students who survived four academic years but as of this date have not graduated from Ohio State University, have exceeded the University's requirement for the number of quarter hours graduating but have not met their individual department curriculum requirements. It appears that a large number of this target population discovered Black curriculum courses and experienced a high degree of success. Therefore, they unknowingly or knowingly continued to take more of these subjects exceeding their department limitation for electives. It appears that without the grades received from various Black curriculum courses that a large number of these target populations would have been in serious academic trouble. Stated more clearly, those students in Group I and Group II showed that their grade point averages would be considerably lower in some cases without the inclusion of the grades from the Black curriculum courses.

One could infer from these findings that the various Black curriculum courses taken served as a compensatory education program with all of the undergraduates of a two-year junior college program, a remedial program and as academic skill courses.
5: There is no significant difference in the academic variables of the American College Test composite scores between survivors and nonsurvivors.

**TABLE 5**

**AMERICAN COLLEGE TEST COMPOSITE SCORES, RANGE, MEANS, STANDARD DEVIATIONS AND t VALUES FOR SURVIVORS AND NON-SURVIVORS**

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group Range</strong> (ACT Composite Score)</td>
<td>5-22</td>
<td>2-25</td>
</tr>
<tr>
<td><strong>Group Means</strong></td>
<td>12.174</td>
<td>11.320</td>
</tr>
<tr>
<td><strong>Standard Deviation</strong></td>
<td>3.452</td>
<td>4.602</td>
</tr>
<tr>
<td><strong>Critical t value at .05 level</strong></td>
<td>1.980</td>
<td></td>
</tr>
<tr>
<td><strong>Experimental t value at .05 level</strong></td>
<td>1.127</td>
<td></td>
</tr>
</tbody>
</table>

Group I range for ACT scores was 5-22, mean 12.174 and standard deviation 3.452. Group II range for ACT scores was 2-25, mean 11.320 and standard deviation 4.602. Critical t value 1.980 is greater than experimental t value 1.127, therefore the null hypothesis is retained. There is no significant difference in the ACT composite test scores between survivors and nonsurvivors.
6: There is no significant difference in the academic variables of the English sub-scores of the American College Test between survivors and nonsurvivors:

**TABLE 6**

**AMERICAN COLLEGE TEST ENGLISH SUB-SCORES, RANGE, MEANS, STANDARD DEVIATIONS AND t VALUES OF SURVIVORS AND NON-SURVIVORS**

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group Range</strong></td>
<td>1-21</td>
<td>1-24</td>
</tr>
<tr>
<td><strong>Group Means</strong></td>
<td>11.000</td>
<td>11.140</td>
</tr>
<tr>
<td><strong>Standard Deviation</strong></td>
<td>5.208</td>
<td>6.031</td>
</tr>
<tr>
<td><strong>Critical t value at .05 level</strong></td>
<td>1.980</td>
<td></td>
</tr>
<tr>
<td><strong>Experimental t value at .05 level</strong></td>
<td>.1323</td>
<td></td>
</tr>
</tbody>
</table>

Group I range ACT English sub-scores were 1-21, mean 11.000, standard deviation 5.208. Group II range ACT English sub-scores 1-24, mean 11.140, standard deviation 6.031. Critical t value 1.980 is greater than experimental t value .1323, therefore the null hypothesis is retained. There is no significant difference in the ACT English test scores between survivors and nonsurvivors.
7: There is no significant difference in the academic variables of the Mathematics sub-scores of the American College Test between survivors and nonsurvivors:

### TABLE 7

AMERICAN COLLEGE TEST MATHEMATICS SUB-SCORES, RANGE, MEANS, STANDARD DEVIATIONS, AND t VALUES OF SURVIVORS AND NONSURVIVORS

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group Range</strong></td>
<td>1-26</td>
<td>1-24</td>
</tr>
<tr>
<td><strong>Group Means</strong></td>
<td>11.775</td>
<td>11.400</td>
</tr>
<tr>
<td><strong>Standard Deviation</strong></td>
<td>6.208</td>
<td>6.955</td>
</tr>
<tr>
<td><strong>Critical t value at .05 level</strong></td>
<td>1.980</td>
<td></td>
</tr>
<tr>
<td><strong>Experimental t value at .05 level</strong></td>
<td>.3023</td>
<td></td>
</tr>
</tbody>
</table>

Group I range ACT mathematics sub-scores was 1-26, mean 11.775 and standard deviation 6.208. Group II range ACT mathematics sub-scores was 1-24, mean 11.400 and standard deviation 6.955. Critical t value 1.980 is greater than experimental t value .3023, therefore, the null hypothesis is retained. There is no significant difference in ACT mathematics sub-scores between survivors and nonsurvivors.
H 0

8: There is no significant difference in the academic variables of the Social Sciences sub-scores of the American College Test between survivors and survivors:

**TABLE 8**

**AMERICAN COLLEGE TEST SOCIAL SCIENCES, RANGE, MEANS, STANDARD DEVIATIONS, AND \( t \) VALUES OF SURVIVORS AND NONSURVIVORS**

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Range</td>
<td>1-26</td>
<td>1-30</td>
</tr>
<tr>
<td>Group Means</td>
<td>10.650</td>
<td>10.220</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>5.021</td>
<td>7.106</td>
</tr>
<tr>
<td>Critical ( t ) value at .05 level</td>
<td>1.980</td>
<td></td>
</tr>
<tr>
<td>Experimental ( t ) value at .05 level</td>
<td>.3763</td>
<td></td>
</tr>
</tbody>
</table>

Group I range for the ACT Social Sciences sub-scores was 1-26, mean 10.650, standard deviation 5.021. Group II range for the ACT Social Sciences sub-scores was 1-30, mean 10.220 and standard deviation 7.106. Critical \( t \) value 1.980 is greater than experimental \( t \) value .3763, therefore the null hypothesis is retained. There is no significant difference in the Social Science sub-scores between survivors and nonsurvivors.
There is no significant difference in the academic variables of the Natural Science sub-scores of the American College Test between survivors and nonsurvivors:

**TABLE 9**

AMERICAN COLLEGE TEST NATURAL SCIENCES, RANGE, MEANS, STANDARD DEVIATIONS, AND t VALUES OF SURVIVORS AND NON-SURVIVORS

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Range</td>
<td>4-23</td>
<td>1-26</td>
</tr>
<tr>
<td>Group Means</td>
<td>13.900</td>
<td>12.300</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>4.634</td>
<td>5.319</td>
</tr>
<tr>
<td>Critical t value at .05 level</td>
<td>1.980</td>
<td></td>
</tr>
<tr>
<td>Experimental t value at .05 level</td>
<td>2.0031</td>
<td></td>
</tr>
</tbody>
</table>

Group I range for ACT Natural Science sub-scores was 4-23, means 13.900 and standard deviation 4.634. Group II range was 1-26, means 12.300 and standard deviation 5.319. Critical t value 1.980 is less than experimental t value 2.0031, therefore we reject null hypothesis. There is a significant difference in Natural Sciences sub-scores between survivors and nonsurvivors.
Observations

The American College Test scores are used as a measuring device for obtaining the academic efficiency levels of students entering The Ohio State University for two purposes. First, the test scores are interpreted to determine whether a student can proficiency out of a University required course, such as English 101. Second, they are used as an admission requirement.

Predictions from the scores are made in four basic areas, English, Mathematics, Social Science and Natural Science. The scores are used in a large number of other institutions as a major admissions selection criteria. There are two significant points that the findings address. One is in regard to how effective a measuring instrument the ACT can be in predicting success of minority students with similar backgrounds of the target population of this study. The other is the validity of the ACT as an admission criteria instrument.

Both the means of Group I and Group II are well below the University's average mean for the entering freshman class ACT scores in 1970. Based on the predicted grade point average that the mean of Group I and Group II predict interpreted is just a letter over a D or 1.2 average.

Those educators involved in compensatory education programming have cited in a number of reviews the cultural biases of different tests. One might be quick to point to these findings as proof of the inaccuracy
of the ACT test scores as a predicting instrument. On the other hand, one might view the scores as an indicator of how a group of minority students measure on an instrument that is widely used in admissions and could be helpful in pointing out various academic weaknesses and strengths for which various academic support programs could be developed to better service the diversified needs of minority students. The researcher supports the importance of the ACT scores in determining individual students academic weaknesses and strengths. Any further interpretation of ACT test scores for minority students of similar background of the target population for success or failure would be grossly inaccurate based on the findings of this study.

The findings showed no significant difference in the English, Mathematics, Social Science and composite scores between the survivors and nonsurvivors. However, there was a significant difference in the Natural Sciences scores between the groups of survivors and nonsurvivors. It is important to note that in both groups that the mean averages were higher than the other three sub-scores' mean averages. The results of these findings show the target population fared better in the reading of passages on Natural Science topics and individual items on general background knowledge related to biology, chemistry, physics, geology and astronomy. Counselors and other educators involved in program efforts similar to Project 100 should carefully look at the implications
of this finding. The researcher feels that the findings show a stronger interest and reading comprehension level among those minority students tested in the Natural Sciences which is dramatically different than the widely held notions of some educators that the interest and reading skills level are greater in the Social Sciences.

H

O

10: There is no significant difference in the academic variable number of academic skill courses taken between survivors and nonsurvivors:

<table>
<thead>
<tr>
<th>TABLE 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUMBER OF ACADEMIC SKILL COURSES TAKEN: RANGE, MEANS, STANDARD DEVIATIONS, AND t VALUES OF THE SURVIVORS AND NONSURVIVORS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Range</td>
<td>Yes</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>35</td>
</tr>
<tr>
<td>Group Means</td>
<td>1.700</td>
<td>1.746</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>.463</td>
<td>.439</td>
</tr>
<tr>
<td>Critical t value at .05 level</td>
<td>1.980</td>
<td></td>
</tr>
<tr>
<td>Experimental t value at .05 level</td>
<td>.5367</td>
<td></td>
</tr>
</tbody>
</table>

Group I range reported 15 students took academic skills courses, 35 did not; mean 1.700 and standard deviation .463. Group II reported
16 students took academic skills course; 47 did not, mean 1.746 and standard deviation .439. Critical t value 1.980 is greater than experimental t value .5367, therefore the null hypothesis is retained. There was no significant difference between survivors and nonsurvivors in regards to whether academic skill courses were taken by the target population.

Observation

The study found no significant difference between the groups of survivors and nonsurvivors in regards to the number of academic skills courses taken. The researcher observed that there are several reasons for the lack of the academic skill courses in the matriculation process of Project 100 students. One is that out of a population sample of 113 students, only 31 reported participating in the academic skills courses. Project 100 students were required to sign up for the courses after being placed on probation but the academic skills courses were not a prerequisite. Thus, a major drawback was related to the administrative policy and academic advising procedure adopted during the embryonic stages of the Project 100 program. Another important factor is related to the lack of minority instructors for the academic skills courses that were offered.

A number of Project 100 students also cited the lack of information and relevance of the courses as being an important reason for not partici-
pating. One might infer from the fact that nearly all Project 100 students enrolled in at least one or more Black curriculum courses successfully that there existed a negative factor within the academic skill portion of the program.

Apparently the students lacked the academic programmatic support initiative and therefore were attracted to those areas within the University community that offered the academic support and cultural relevance deemed vital for their survival. Perhaps Project 100 students sought short term solutions to their academic inefficiencies instead of the long range academic support offered by some of the academic skills courses. The lack of administrative support and academic advising is seen as the major inadequacy that contributed to the ineffectiveness of the academic skills courses. It seems clear that the students need some form of academic support.

H

11: There is no significant difference in the academic variable of tutorial assistance received between the groups of survivors and nonsurvivors.

<table>
<thead>
<tr>
<th>Group</th>
<th>Range</th>
<th>Yes</th>
<th>No</th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Range</td>
<td>Yes</td>
<td>9</td>
<td>29</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>41</td>
<td>34</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TABLE 11 - continued

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Means</td>
<td>1.820</td>
<td>1.540</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>.388</td>
<td>.502</td>
</tr>
<tr>
<td>Critical t value at .05 level</td>
<td>1.980</td>
<td></td>
</tr>
<tr>
<td>Experimental t value at .05 level</td>
<td>3.3441</td>
<td></td>
</tr>
</tbody>
</table>

From Group I 9 students took tutorial assistance, 41 did not, mean 1.820 and standard deviation .388. From Group II 29 took tutorial assistance and 34 did not, mean 1.540 and standard deviation .502. Critical t value 1.980 is less than the experimental t value 3.3441, therefore the null hypothesis is rejected. There is a significant difference in tutorial assistance received between the groups of survivors and nonsurvivors.

Observations

The study found a significant difference in tutorial assistance received between Group I and Group II, however, the findings are in reverse of what was expected. More students who did not survive four academic (29) received tutorial assistance as compared to the 9 survivors who took tutorial assistance. One might infer that tutorial assistance received by Project 100 students had negative effects on their chances
of surviving at The Ohio State University. However, the findings point
to a drawback of Project 100 program in that only one-half of the
students who did not survive at Ohio State University campus received
tutorial assistance. Further the student who would have been the
highest risk would probably have been those who were referred to
or sought tutoring. In effect, the definition of failures would have
been more likely to have been nonsurvivors.

It should be remembered that although a number of students
left school for personal reasons, the fact still remains that out of
113 students only 38 signed up for tutorial assistance. One might infer
also that Project 100 students were not programmed or advised to
receive tutorial assistance and/or they might have felt a certain
negative attachment associated with receiving tutorial assistance.
It could be easily inferred that because of the large number of students
who took Black curriculum courses with a high degree of academic
success that those students stayed away from those other academic
courses that would require them to receive tutorial assistance of some
form.

H
O

12: There is no significant difference in the academic variable
of first quarter grade point average between survivors and
nonsurvivors;
TABLE 12
FIRST QUARTER GRADE POINT AVERAGES: RANGE, MEANS, STANDARD DEVIATIONS, AND t VALUES FOR SURVIVORS AND NONSURVIVORS

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Range</td>
<td></td>
<td></td>
</tr>
<tr>
<td>low</td>
<td>.400</td>
<td>.0</td>
</tr>
<tr>
<td>high</td>
<td>3.611</td>
<td>3.8</td>
</tr>
<tr>
<td>Group Means</td>
<td>2.323</td>
<td>1.946</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>.798</td>
<td>.970</td>
</tr>
<tr>
<td>Critical t value at</td>
<td></td>
<td></td>
</tr>
<tr>
<td>.05 level</td>
<td>1.980</td>
<td></td>
</tr>
<tr>
<td>Experimental t value</td>
<td></td>
<td></td>
</tr>
<tr>
<td>at .05 level</td>
<td>1.4796</td>
<td></td>
</tr>
</tbody>
</table>

Group I range is .400 to 3.611, mean 2.323 and standard deviation .798. Group II range is .0 to 3.8, mean 1.946 and standard deviation .970. Critical t value 1.980 is greater than experimental t value 1.4796, therefore the null hypothesis is retained.

There is no significant difference in the first quarter grade point averages between the survivors and nonsurvivors.

Observations

The study showed conclusively that students in Group I who survived four academic years at The Ohio State University did not
differ significantly in their first quarter academically from those who did not survive. From the data it is possible to state that academic performance that includes experience beyond the first quarter would need to be examined in order to determine survivors and non-survivors. Although the grade point average is low for the nonsurvivors, there was no statistical difference. An examination of the records would indicate that a number of factors would exist. First students who dropped out following the first quarter would be likely to do so regardless of the grade point average. The same fact would also be true following the second quarter. Perhaps other variables other than academic performance are involved. When the students do withdraw for academic reasons, the differences are masked and therefore examination of grade point average as a case of withdrawal needs to be made with each student.

H
O

13: There is no significant difference in the academic variable of having chosen an academic field of study between survivors and nonsurvivors:
TABLE 13

MAJOR FIELD OF STUDY CHOSEN: RANGE, MEANS, STANDARD DEVIATIONS, AND $t$ VALUES OF SURVIVORS AND NONSURVIVORS

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Range</td>
<td>Yes</td>
<td>49</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>1</td>
</tr>
<tr>
<td>Group Means</td>
<td>1.020</td>
<td>1.270</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>.141</td>
<td>.447</td>
</tr>
<tr>
<td>Critical $t$ value at</td>
<td></td>
<td></td>
</tr>
<tr>
<td>.05 level</td>
<td>1.980</td>
<td></td>
</tr>
<tr>
<td>Experimental value</td>
<td></td>
<td></td>
</tr>
<tr>
<td>at .05 level</td>
<td>4.1876</td>
<td></td>
</tr>
</tbody>
</table>

The range for Group I showed 49 having chosen a major and only 1 had not, mean 1.020 and standard deviation .141. Group II showed 46 having chosen a major and 17 had not, mean 1.270 and standard deviation .447. Critical $t$ value 1.980 is less than the experimental $t$ value 4.1876, therefore the null hypothesis is rejected. The survivors and nonsurvivors did differ for the variable of having chosen a major field of study.

Observations

Identifying a major field of study for any student is no easy task; it requires a thorough self analysis of one's abilities and
limitations and a careful investigation of vocation and career opportunities available for students to choose from. It is the researcher's opinion that students who identify an academic major field of study during their initial year in college demonstrates that they have begun to explore and formulate their career plans. Although their plans may change two to three times during the four years, at least those students who have made some form of a tentative decision are demonstrating a sense of direction.

The findings here support the theory that minority students of similar background of the study's target population might fare better in an institution similar to Ohio State University campus when they have a sense of academic direction. One could infer that minority students who enter a major institution without any clear or tentative career vocational direction are not apt to compete with similar students with the same backgrounds, but who have some form of direction.

The implication of these findings should stimulate compensatory education programs and counselors to build in their academic advising and component for career and vocation counseling within the institutions like The Ohio State University.

H
O
14: There is no significant difference in dormitory living status between survivors and nonsurvivors:
### TABLE 14

**DORMITORY LIVING STATUS: RANGE, MEANS, STANDARD DEVIATIONS AND t VALUES FOR SURVIVORS AND NONSURVIVORS**

<table>
<thead>
<tr>
<th></th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group Range</strong></td>
<td>Yes</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>14</td>
</tr>
<tr>
<td><strong>Group Means</strong></td>
<td></td>
<td>1.280</td>
</tr>
<tr>
<td><strong>Standard Deviation</strong></td>
<td></td>
<td>.454</td>
</tr>
<tr>
<td><strong>Critical t value at</strong></td>
<td>.05 level</td>
<td>1.980</td>
</tr>
<tr>
<td><strong>Experimental t value</strong></td>
<td>at .05 level</td>
<td>1.2584</td>
</tr>
</tbody>
</table>

The range for Group I dormitory residence was 36 did reside, 14 did not, means 1.280 and standard deviation .454. Group II showed 50 residing and 13 were not; means 1.175 and standard deviation .423. Critical t value 1.980 is greater than the experimental t 1.2584 therefore, the null hypothesis is retained. There is no significant difference in dormitory living status between survivors and nonsurvivors.

**Observations**

The question of how significant does dormitory living contribute toward the successful matriculation of Project 100 students at The
Ohio State University campus was answered by this study's findings which show no significant difference between the group of survivors and nonsurvivors. There are educators who have long felt that dormitory living greatly enhances the success of students in institutions of higher learning. This fact is reflected in the parental rule adopted by most colleges and universities which make dormitory living a requirement for freshman and sophomore students. Although this study does not attempt to address the much larger question, it does show that at least for the target population that dormitory living was not a criterion for success or failure.

H
O
15: There is no significant difference in the academic variable of English 101 grades for survivors and nonsurvivors:

**TABLE 15**

ENGLISH 101 GRADES: RANGE, MEANS, STANDARD DEVIATIONS, AND t VALUES FOR SURVIVORS AND NONSURVIVORS

<table>
<thead>
<tr>
<th>Group Range</th>
<th>Group I</th>
<th>Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>B</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>C</td>
<td>20</td>
<td>24</td>
</tr>
<tr>
<td>D</td>
<td>8</td>
<td>15</td>
</tr>
<tr>
<td>E</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Group I</td>
<td>Group II</td>
</tr>
<tr>
<td>--------------------------</td>
<td>---------</td>
<td>----------</td>
</tr>
<tr>
<td>Group Means</td>
<td>2.180</td>
<td>1.651</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>1.119</td>
<td>1.152</td>
</tr>
<tr>
<td>Critical $t$ value at .05 level</td>
<td>1.980</td>
<td></td>
</tr>
<tr>
<td>Experimental $t$ value at .05 level</td>
<td>1.2756</td>
<td></td>
</tr>
</tbody>
</table>

Group I (A, 7; B, 11; C, 20; D, 8; E, 2) with mean 2.180 and standard deviation 1.119. Group II (A, 5; B, 7; C, 24; D, 15; E, 7), mean 1.651 and standard deviation 1.152. Critical $t$ value 1.980 is greater than the experimental $t$ value 1.2756, therefore, the null hypothesis is retained.

Observations

The study found no significant difference in English 101 grades between survivors and nonsurvivors. The researcher had expected to find a significant difference based on the assumption that high English 101 grades would reflect those students who possessed adequate communication skills and therefore would be more characteristic of the group of survivors. Thus it was assumed that there would be a big discrepancy between the groups of survivors and nonsurvivors in English 101 grades. By ranking all twenty-five variables the English 101
grade variable ranks number fifteen in its discriminating capacity between the groups of survivors and nonsurvivors. Specifically, English 101 is engaged in and coped with or performed equally by survivors and nonsurvivors. The subsequent English courses of 102 and 103 may be a differentiating variable. However, data show that before students enter these follow-up courses they would have dropped out in sufficient numbers as to make statistical examination impossible. Therefore, English 102 and 103 are not generally useful for research purposes and English 101 is not a useful predictor.

Rank Ordering of Variables

Another method of analyzing the variables of the study is through the use of the U statistic. This method ranks all variables in order of their contribution to a prediction of survivors or nonsurvivors at The Ohio State University. In other words, the U statistic is a measure of ranked impact and can be explained as being the effect of the predictor variable on the criteria variable, therefore creating a statistic ranking hierarchy which reports the variables with the higher U statistic as having the higher discriminant effect. Theoretically, variables with larger U statistics should be associated with relatively larger experimental t values. As shown in the previous hypotheses, this relationship generally held true. Table 16 lists the variables in order of their discriminating power.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Variable Number</th>
<th>Significant</th>
<th>U Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Black Curriculum Courses</td>
<td>05 S</td>
<td></td>
<td>.8391</td>
</tr>
<tr>
<td>2. Student Reinstatement</td>
<td>23 --</td>
<td></td>
<td>.7644</td>
</tr>
<tr>
<td>3. Major Field of Study Chosen</td>
<td>13 S</td>
<td></td>
<td>.6932</td>
</tr>
<tr>
<td>4. ACT Natural Science Scores</td>
<td>10 S</td>
<td></td>
<td>.6668</td>
</tr>
<tr>
<td>5. English 103 Grades</td>
<td>26 --</td>
<td></td>
<td>.6432</td>
</tr>
<tr>
<td>6. Racial Composition of High School</td>
<td>04 S</td>
<td></td>
<td>.6224</td>
</tr>
<tr>
<td>7. Tutorial Assistance Received</td>
<td>19 S</td>
<td></td>
<td>.6051</td>
</tr>
<tr>
<td>8. Sex</td>
<td>03 NS</td>
<td></td>
<td>.5938</td>
</tr>
<tr>
<td>9. Hours Taken Second Quarter</td>
<td>18 --</td>
<td></td>
<td>.5835</td>
</tr>
<tr>
<td>10. Academic Skills Courses Taken</td>
<td>11 NS</td>
<td></td>
<td>.5658</td>
</tr>
<tr>
<td>11. Age</td>
<td>02 NS</td>
<td></td>
<td>.5529</td>
</tr>
<tr>
<td>12. Hours Taken First Quarter</td>
<td>12 NS</td>
<td></td>
<td>.5417</td>
</tr>
<tr>
<td>13. ACT English Scores</td>
<td>07 --</td>
<td></td>
<td>.5280</td>
</tr>
<tr>
<td>14. Probation Status</td>
<td>21 --</td>
<td></td>
<td>.5211</td>
</tr>
<tr>
<td>15. English 101 Grades</td>
<td>24 NS</td>
<td></td>
<td>.5164</td>
</tr>
<tr>
<td>16. ACT Mathematics Scores</td>
<td>08 --</td>
<td></td>
<td>.5107</td>
</tr>
<tr>
<td>Variable</td>
<td>Number</td>
<td>Significant</td>
<td>U Statistic</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>--------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Dormitory Resident</td>
<td>15</td>
<td>NS</td>
<td>.5057</td>
</tr>
<tr>
<td>Dismissal Status</td>
<td>22</td>
<td>--</td>
<td>.5032</td>
</tr>
<tr>
<td>ACT Social Science Scores</td>
<td>09</td>
<td>NS</td>
<td>.5013</td>
</tr>
<tr>
<td>ACT Composite Scores</td>
<td>06</td>
<td>NS</td>
<td>.4902</td>
</tr>
<tr>
<td>Second Quarter Grade Point Average</td>
<td>17</td>
<td>--</td>
<td>.4875</td>
</tr>
<tr>
<td>Commuter Student</td>
<td>16</td>
<td>NS</td>
<td>.4867</td>
</tr>
<tr>
<td>Home Town (rural or urban)</td>
<td>20</td>
<td>--</td>
<td>.4862</td>
</tr>
<tr>
<td>English 102 Grades</td>
<td>25</td>
<td>--</td>
<td>.4859</td>
</tr>
<tr>
<td>First Quarter Grade Point Average</td>
<td>14</td>
<td>NS</td>
<td>.4857</td>
</tr>
</tbody>
</table>

Summary

The findings of this study showed that of the fifteen variables chosen for null hypotheses, nine indicated that no significant difference existed between the groups of survivors and nonsurvivors. Those variable are:

1. Demographic Variable Age
2. Demographic Variable Sex
3. Academic Variable ACT Composite Test Scores
4. Academic Variable ACT English Test Scores

5. Academic Variable ACT Mathematics Scores

6. Academic Variable ACT Social Science Scores

7. Academic Variable Academic Skills Courses Taken

8. Academic Variable First Quarter Grade Point Average

9. Academic Variable English 101 Grades

The findings also showed that six of the fifteen null hypotheses tested reflect that a significant difference did exist between the survivors and nonsurvivors. They are:

1. Academic Variable Number of Black Curriculum Courses Taken

2. Academic Variable Major Field of Study Chosen

3. Academic Variable American College Test Natural Science Scores

4. Demographic Variable Racial Composition of Student's High School

5. Academic Variable Tutorial Assistance Received

6. Demographic Variable Dormitory Resident Status

A hierarchical listing of the total number of variables as revealed by the U Statistic was also presented.

This chapter presented the findings of the study. Chapter V contains the summary, conclusions and recommendations.
CHAPTER V
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

This study examined the variables that appear to be useful for predicting early in their first academic year those minority students who will successfully complete four academic years of study in a specialized program for recruited Black students. This chapter summarized the findings of the study, draws conclusions and presents recommendations for further research.

Project 100 is a special program for assisting recruited Black students to complete four years of study at The Ohio State University. The program included special recruitment and procedures, financial aid, tutorial assistance, program advising and an administrative support staff.

A general description of the target population showed that the group composition by demographic and academic variables were comprised as follows.

Demographically, the age range for the group of survivors was 17-30, the major area of concentration for the age range was the 18-19 year-old bracket. Thirty-two students fell in the 18
year-old bracket and 10 fell in the 19 year-old bracket. In the other categories, there were no more than two students found. By contrast, the nonsurvivors ranged from 17 years of age to 34. In the age brackets 18 and 19 the nonsurvivors were more equally represented. Twenty students fell in the 18 year-old bracket and 25 were in the 19 year-old bracket. Additionally, a higher percentage of students were found in the 20-21 year-old bracket. In the first group, there were 30 females and 20 males represented, 60 and 40 per cent respectively. Of the total group there were 19 more females represented. Racial composition of high school attended showed that of the total group 54 attended predominantly Black high schools and 59 attended predominantly white high schools. By group they showed that 31 and 19 attended Black high schools by Group I and Group II respectively. It was found that of the total group 86 students stayed in residence halls and 27 students did not. Group comparisons of the survivors and nonsurvivors showed that 36 of the survivors stayed in residence halls and 14 did not. The nonsurvivors had 50 students in residence halls and 13 were not.

Academically, comparing the number of survivors and non-survivors in the number of Black curriculum courses taken, of the survivors only six students did not enroll in any Black curriculum courses. The maximum number of courses taken by a student in
the surviving group was 17, whereas for the nonsurvivors one student took the maximum of 11. The average number of courses taken for the survivors was 6 and 3 for the nonsurvivors. Of the total group of students, 31 reported taking academic skill courses, 82 did not. Of the survivors, 15 students did not participate and 35 did, whereas for the nonsurvivors, 16 participated and 47 did not. Of the total group 38 students received tutorial assistance and 75 students did not. In the group of survivors, 9 students took tutorial assistance and 41 did not. The grade comparison between survivors and nonsurvivors at the completion of their first quarter showed that the survivors had an average of 2.37 as compared to 1.94 for the nonsurvivors. For the group of survivors 49 showed reporting a chosen field as compared to only 1 who did not report having chosen a major field during the earlier stages of the program. The nonsurvivors showed 46 students had chosen a major field and 17 had not. The group comparisons between survivors and nonsurvivors for English 101 grades showed that the highest percentage of students in both groups were found in the C category for English 101. Eleven students in the survivors received B's and 7 in the nonsurvivors. Of the total group, 9 students failed; 2 were in the group of survivors and 7 in the group of nonsurvivors.
Regarding the total group American College Test composite scores, the range was 2 - 25. For the survivors it was 5 - 22. The composite mean for the total group was 11.748 which is considerably below the expected means of entering University freshmen. A visual examination of the data showed a clustering around the mean score. Differences were found in the predictive values of sub-scores as reported in the following findings.

A testing of fifteen null hypotheses revealed no significant difference between the two groups in age, sex, dormitory status, enrollment in academic skill courses, first quarter grade point averages, English 101 grades, ACT sub-scores for English, math, social sciences and composite scores.

Significant differences were found whereby survivors were more likely to have taken more Black curriculum courses, received tutorial assistance, have chosen an academic major field of study, had received high ACT Natural Science scores, and had attended a predominantly Black high school.

Experience with the program operation and the examination of the data suggested that a number of commonly used variables were not useful largely because of the lack of availability of adequate numbers for research purposes. These include English 102 and 103. Other
data were not used because visual examinations indicated no significant differences, and significantly personal experiences with the program led to an elimination of some data because of the impossibility to draw conclusions even if significant differences were to have been found. These include dismissal, probation and reinstatement data.

A ranking of the twenty-five variables in order of their usefulness in predicting survival shows that in order of value they were: Black curriculum courses taken, student reinstatement status, major field of study chosen, ACT natural science scores, English 103 grades, racial composition of high school, tutorial assistance received, sex, number of hours taken second quarter, academic skills courses enrollment, age, number of hours taken first quarter, ACT English scores, probation status, English 101 grades, ACT math scores, dormitory resident status, dismissal status, ACT social science scores, ACT composite scores, second quarter grade point average, commuter student status, type of home town, English 102 grades, and first quarter grade point average.

Conclusions

The first conclusion is that since of those twenty-five variables most commonly used for selection, prediction and program purposes, some are useful and some are not, administrators, counselors
and other educators involved in compensatory education support efforts should examine more carefully their use of those common variables. Personal biases held regarding those variables should be eliminated and substituted with empirically verified data that would provide for the best interpretation possible for programmatic use.

For example, the demographic variables sex, age and dormitory status show no significant difference between the survivors and non-survivors. It is concluded that caution should be employed in determining admissions and program decisions based on the interpretation of those variables that have not been carefully studied.

A second conclusion is that where data are found to be useful for predicting those who will persist in a four-year program of studies such as selection of academic major, Black curriculum courses taken, tutorial assistance received, enrollment in (predominantly Black) high school and ACT sub-scores, a careful examination must be made to better understand specifically the influence of each. These variables appear to be so closely correlated to each other that it is difficult to determine the weight or significance they would have if independent in determining survival. However, their placement high in a ranking order is an indicator of their significance in determining survival.
It is possible to conclude that the remaining three years of the students' programs will find a lessened impact of Project 100 support and a greater involvement in the total University program, including meeting requirements for major courses of study. Since these were early determinates, however, and those who did not survive to complete the total program were not studied these early factors must be examined later in the program to determine their later relationship. Thus, where personal bias or experiences have an impact on decisions and programs without having been carefully examined or studied, even when research is conducted, additional investigation is needed to draw the clear meaning from the findings. Student interviews, daily experiencing with the program and constant follow-up are necessary.

A third conclusion calls for the need to better understand the students' potential based on their experiences prior to enrolling at the University. The type of high school experiences are important not only for the academic dimension but for the more pervasive contributions to the total development of the students. The issues surrounding desegregation and integration need to be better understood. It does not seem accurate to say that an integrated high school per se will lead to more persistent college achievement. In addition to the numbers of students admitted from Black high schools,
it is important to be able to predict their survival in the college program. High school personnel need to be included in selection, admission and continual follow-up of those students who survive.

Some intrinsic characteristics obviously exist within predominantly Black high schools which enhance the students' abilities to interact within a university and manipulate it for his survival. These characteristics may be either academic or non-academic in nature. They were effective predictions within the confines of a specialized program however, and possibly may be counter-productive in a total nonsupportive university environment.

A fourth conclusion emphasizes this fact, that the students studied--as would any similar group--functioned primarily within a Black project environment and their ability to cope with the system successfully may well be an ability to cope with a Black system within a larger white setting and not the white setting itself. They were operating within a sub-institution within the total university environment. Black curricula do in fact contribute greatly to survival early in a student's program. The consequences of these early experiences, the integration of the student into the total environment and his or her progress later needs to be examined. However, the effectiveness of the early academic experience in a Black setting seems imperative for success of a student of this background.
Other students when studied individually may be able to compete successfully in the total university setting and program without the programmatic support of a Project 100. In fact, the sub-environment of a Project 100 may be debilitating for some students not able to understand or cope with this type of environment. Attempts to deal with large numbers of similar minority students, however, warrants the conclusion which supports use of the Black high schools and Black college programs.

A fifth conclusion suggests that the use of an academic variable such as the ACT for selection does not appear to be useful as an indicator of survival in the four-year program. The Natural Science sub-score, however, can be concluded to be different from the others in its early predictive value for persistence in a program. Factors other than that of academic aptitude are interacting to influence survival. The overall low scores of the students on the ACT and lower grade point ratios indicate that survival depends more upon nonacademic factors than academic. This is obviously a reflection of the program in part, but more importantly may be a reflection of the need to develop in students other characteristics in order to survive.

A serious caution to be taken in drawing conclusions from this study is that which acknowledges the fact that of the nonsurvivors,
some may have continued in other academic programs and succeeded. Thus, while the conclusions will hold for students who are in attendance at this university or probably who are in attendance at other similar universities, there may be students who do survive other types of programs and will need the characteristics more closely associated with academic achievement and aptitude during the first year.

**Recommendations for Further Study**

A study of the status of the survivors and nonsurvivors during the third and fourth year of their program needs to be conducted. The same variables should be examined to determine their consistency for predictive purposes.

A study of the current status of the nonsurvivors needs to be conducted to determine how many are still in attendance in similar programs at other universities, how many have made effective other career decisions and how many have not adjusted to post high school programs. The differential characteristic of these groups needs to be determined.

A study of the attitudinal and personality characteristics of the groups needs to be conducted to determine the impact of these variables on the survivors and nonsurvivors. These variables have an obvious impact, but their nature makes them somewhat more
difficult to draw inferences for research. Another type of study would proceed in a considerably different manner than the current study.

A study needs to be conducted of the specific impact and nature of the influence of the variables found significant. Individual conferences, program examination and process research are likely fruitful avenues for this type of study.

A study of the programmatic implications of the data examined needs to be conducted. This type of process research would lead more directly to programmatic change and the differential impact of manipulation of the program based upon the data revealed in this research.

A study also is needed to investigate the nature of the career and vocational identification processes experienced by the survivors and nonsurvivors.
APPENDIX A

PROPOSAL INPUT FOR A RECRUITMENT PROGRAM

TO THE OHIO STATE UNIVERSITY
The Ohio State University Admissions Office will be charged with the responsibility to assist and motivate the disadvantaged students of Ohio toward attending the institution. Traditionally the Admissions Office has supplied information to the various high schools in Ohio about admission requirements and general information concerning the academic and cultural aspects of our University. The Admissions Office in an attempt to reflect an awareness and obligation to these Ohio residents will provide a recruitment program that will provide a recruitment program that will identify to this task.

According to the 1969 estimate by the Census Bureau, the Black population in Ohio was 885,667, or 8.2 per cent of the total population. Although 1970 census data is not available it is thought that the Black population in Ohio has reached a million. The Ohio State University was established by the Morrill Act of 1870 to meet the educational needs of the agrarian society. Since that time, Ohio has gone from an agrarian society to an urban society, and Ohio State must meet the needs of that urban society. An initial goal of the administration should be to bring the Black student population in line with the total Black population of Ohio.

Appalachian and other disadvantaged whites will be included in this recruiting effort by the Admissions Office. The responsibility of Ohio State University is to provide educational opportunity for all
residents of Ohio.

The Admissions Office will attempt to identify students that will receive financial assistance to attend the Ohio State University. They will strive to eliminate the plight that so many prospective OSU students have suffered, which has eliminated far too many students from the benefits of higher education. The Admissions Office staff by their recruiting effort will contact numerous students that have the potential and the aspirations to pursue their college education. With the realization that through effective recruiting efforts, which should assist and motivate prospective students toward higher education, it is mandatory that an affirmative commitment be taken to provide financial assistance.

The program objectives are to recruit 100 inner-city students for fall quarter to Ohio State University. Target high schools will be determined by their minority student enrollment, subsequently the majority of the schools will be in the larger metropolitan cities. Various other schools throughout the state will also be visited in order to identify those other students who share the same disadvantages.

This recruiting effort should accomplish two primary objectives that are a part of the philosophy adopted by the Admissions Office:

1. To recruit additional minority and disadvantaged white students to The Ohio State University and provide financial assistance.
2. To motivate minority students toward higher education.

Financial assistance for the recruited inner-city students will be provided by the Financial Aids Department. The nature of the Financial Assistance will be in the form of the following:

1. Scholarships are monetary gifts which do not involve repayment. Selection is based on the student's academic performance or potential and the amount ordinarily varies with the student's financial needs.

2. Grants are gifts of money made to students in need of financial aid and capable of meeting normal academic requirements. These programs, funded primarily by the state and federal government do not imply academic distinction.

3. Loans are financial aids which have the requirement that they be repaid at a specific time. Most loans administered by the Financial Aids Office also have a minimal interest charge.

4. The University participates in the Federal College Work-Study Program for full-time students from low income families who could work and could not attend school without financial assistance. Qualified students work on campus for an average of fifteen hours per week and earn approximately $700 during three quarters. Applicants must rank in the upper two-thirds of their high school class and maintain good standing at the University to be eligible.

Special funds will be provided available to pay the $10 application fee and $25 acceptance fee for one hundred students. This will not be a waiver or postponement of the application, but is a charge made by the Admissions Office against an appropriate amount of budgeted non-state funds. The criteria that will be employed to
determine what student's fees will be paid are letters from high school counselors verifying the needs of the students.

Webster's Dictionary defines disadvantaged as an unfavorable, inferior or prejudicial condition. The Admissions Office has defined potential disadvantaged college students into the following three categories:

1. Those students who have been deprived socially have inherited restrictions that have obstructed and almost delayed their motivation. This can be caused by environmental deprivation, the lack of parental guidance, the lack of guidance and motivation and concern from high school counselors.

2. Those students who because of the economic standing of their parents cannot afford higher education. Within this category you may find two variations of students. One being the student whose family is so poor that the federal government financial aid allotted to this student is not sufficient to adequately meet all his needs. The second group within this category is the bright B and C student whose family income is just over the federal poverty financial aid guidelines. This student is normally ineligible for scholarships, financial aid (national honor society type) and for poverty financial aid. Yet the family income is not adequate enough to take on the burden of the full college tuition nor in a majority of cases to be able to borrow money from reputable financial institutions.

Criteria for selecting the economically disadvantaged students through the recruiting efforts of the Admissions Office:

1. Identifying and recruiting the economically disadvantaged student who ranks in the upper half of his graduating class. This group will comprise the largest portion of students to be recruited.
2. The second group of students that will be recruited may not rank in the upper half of their class because of the lack of motivation both from their parents and high school counselors, yet they possess the desire and potential to succeed in college.

3. The number of students that will be recruited from the various cities in Ohio will be based on the population of the metropolitan cities.

4. The selection of those students that are not in the top half of their graduating class will be determined by the high school counselor's recommendation and by the Admissions Office Professional Staff member who is responsible for the recruiting of inner-city students.

The Admissions Office Professional Staff and the representative from the Financial Aids Office will visit the target inner-city high schools on designated dates with a commitment to recruit a set number of students for admission to The Ohio State University. Their staff people should be Black with assistance from minority students.

The presentation that the Admissions Office Professional Staff member will present will provide the following information:

1. Inform the students about the history of Ohio State.

2. Speak of the advantages that a college education can provide for an individual.
   a. economic security
   b. means of selecting and training for the jobs of their choice.

3. Speak on the educational opportunities available at Ohio State.
   a. variety of courses and departments
   b. quality of teachers (academic background)
   c. physical facilities
4. Admission requirements.
   a. application fee
   b. acceptance fee
   c. explain requirement to take American College (ACT)
   d. proficiency tests
   e. orientation
   f. placement tests
   g. counseling that is available to all OSU students
   h. honors program

5. Student housing.
   a. University has twelve residence halls for undergraduates
   b. fourteen undergraduate residence for men
   c. two co-educational

6. Health service.

   Their objectives will be to present this information in a way that we will motivate these students to apply to The Ohio State University. With the awareness that many of the fears and distorted images associated with Ohio State University will not be completely eliminated by their visit. These initial contacts along with several follow-up visits will prove fruitful in recruiting from the target inner-city high schools.

   Recognizing that the majority of students that are to be recruited have had no opportunity to actually visit the college facilities, they will be invited to visit the campus. The Admissions Office will be arranging special tours for high school groups, parents and other interested individuals. Special tours can be arranged for students from the target high schools to visit the campus. These tours will help to expose them further to the educational opportunities available to them at the University.
The social atmosphere at OSU is a relevant and crucial part that will help determine whether the students will attend the University. Also, equally important, the social atmosphere will have some effects on the academic adjustment once the students are attending the University. Taking all these factors into consideration a vital component of this recruitment will be the assistance given by the student assistants.

Primarily they will be used to host the visiting high school students while they are touring the facilities, directing and supplying personal viewpoints that can be interpreted objectively or subjectively about the University.

The student assistants will accommodate the recruiting team to the inner-city high schools, answering questions directed to them by the high school students. These student assistants will be employed by the Admissions Office. The Program Director will be their supervisor and also responsible for delegating their job specifications.

The recruitment of inner-city students for The Ohio State University with the assistance of representatives from the financial aids office and the student assistants will be directed in the following geographic areas: Columbus, Dayton, Springfield, Cincinnati, Toledo, Cleveland, Akron, Canton, Youngstown and other appropriate areas.
APPENDIX B

SUMMARY OF VARIOUS DEVELOPMENTAL
AND EDUCATIONAL SKILLS PROGRAMS OF TWO-YEAR
INSTITUTIONS
Educational and Cultural Development was established in 1965 to assist the "latent terminal" student who aspires to transfer from a community college but does not. The objectives of the program are to "retain the student long enough to help him achieve academic success or decide on a change in vocational-educational goals and to influence change in students' values and personality development toward greater maturity." The program offers a two semester package of four transferable, college-level courses in humanities, natural science, communications and social science plus a guidance seminar for the development of self-understanding and interpersonal skills. Block scheduled so that the groups of students take all their courses together, classes are team taught by faculty oriented to student needs and lifestyles. The program enrolls primarily fulltime day, liberal arts, transfer applicants with below C high school averages who score between the tenth and fifty-eighth percentile on the SCAT. During fall 1970, 700 students (96 percent white) and a staff of thirty fulltime and twenty-five parttime personnel (mostly teachers) participated in the program. The director reports that in a recent study the proportion of Educational and Cultural Development students graduating from Macomb was about three times as high as for the regular student body.
Established in 1968, the General Studies Program provides courses in English, social science, natural science and tutorial assistance in basic skills and the above courses, academic and non-academic counseling. Enrollment in the program is voluntary and has recently averaged about four percent of the total student body. In fall 1970 Black students comprised about nine percent of the total student population and about 25 percent of the General Studies Program enrollment. The director reports 95 percent of those enrolled in 1969 went into a program leading to a bachelor's degree or into a vocational studies program. As of June, 1970, 67 percent of the 182 students who had enrolled in the program during the four semesters of the 1968-70 had continued in some college program. Depending on the subject area, two-thirds to three-fourths of the students successfully pass regular college courses after completing General Studies Program courses.

Developmental Services began in fall 1969 when College of Lake County opened. The program offers individualized tutorial assistance in basic study skills and specific courses combined with academic and non-academic counseling. The staff includes four fulltime, credentialed
instructors who are trained for developmental education. Instructional materials are developed primarily from course textbooks. Housed in an instructional laboratory and a few offices, the program enrolled 284 students in fall 1969 and 335 students in fall 1970. Although follow-up studies have not been conducted, the director reports very favorable responses from students, faculty and administration and increasing interest in the community.

College of DuPage
Glen Ellyn, Illinois
Program: Developmental Learning Laboratory

In 1968 College of DuPage reorganized its program of developmental and remedial courses and established the Developmental Learning Laboratory. This program provides individualized instruction in basic skills and specific classes as well as small group workshops for interpersonal relations and attitude development. During fall 1970, the Laboratory enrolled 600 students on a voluntary basis and employed a staff of nine fulltime and twenty-one parttime personnel. The director reports that individual pre-test and post-test studies show, over an eleven week quarter, a 3-1/2 grade level equivalent average increase in reading and an average gain in speed of almost 200 words per minute. It was further reported that response from the faculty has been very positive and future plans include the development of individualized courses in English, Spanish, math, political science and psychology to be taught in the Laboratory for credit in the various departments.
Ankeny's developmental education effort comprises several separate programs designed to meet specific needs of differing groups of students. For students "whose achievement is below the standard program," Learning 100 Lab provides voluntary, non-credit, individualized instruction in developmental reading and writing in addition to achievement and diagnostic testing. A staff of one part-time and two full-time specialists teach about 100 students in this program. Career Exploration Center, a non-credit program for handicapped and disadvantaged students helps students assess their achievement, interest, aptitude and "psychological tolerance" for specific vocations through standardized testing, personal counseling, and short-term work experience in various vocational settings. If needed, students are also provided developmental instruction in basic skills, math and science. The Center enrolls about 500 students a year. Two other programs enroll about 100 students. These programs provide transferable courses and work experience in teacher education and human service vocations.
Malcolm X College
Chicago, Illinois
Program: Learning Skills Center

Established in 1969, the Learning Skills Center offers a curriculum of developmental instruction for credit in English, reading and math and tutorial assistance in college courses and basic skills. Open to all students, most instruction is individual or in groups of three or four. The Center staff includes thirteen fulltime personnel—twelve teachers and one administrator—thirty-five parttime staff assistants primarily senior college students who tutor in the subject of their major. The staff also provides academic and nonacademic counseling. Operating on an unstructured time schedule, the Center served 1500 students during fall, 1970 which is about 40 per cent of the predominantly Black student body. Seventy-five per cent of the Center students received over $500 of financial aid during 1970-71. One college official estimated that 75 per cent of the students who have enrolled at Malcolm X since 1969 and who are continuing there or at another college have received tutoring at the Center. She reported community response to the program was "exceedingly good" and that "students appreciate it very highly because it is not a remedial center but a developmental center."
Instituted in 1965, this program is primarily content and academic skill oriented. Nine formal non-credit courses are offered in math, English, reading, writing and study skills. In addition, a referral laboratory for individualized tutoring in the above areas is provided. The staff includes three fulltime and eight parttime fully-trained specialists. Although students may be advised to participate in the program because of low high school rank and placement test scores, enrollment is voluntary and open to all. In fall 1970, 10 per cent of the student body was enrolled. About 60 per cent of those enrolled in 1969 went into either a technical studies or bachelor’s degree program, 15 per cent are continuing in the Developmental Education Program and 25 per cent have dropped out. According to a recent institutional study, the dropout rate of high-risk students who have participated in the program is slightly higher than the total student population rate.

College Skills Program was established in 1968 "to develop those basic skills necessary for academic success in college." It provided a non-transferable twenty week concentration of formal classroom training and drill in basic skills in addition to tutoring and
personal counseling. In the fall quarter 1968, 204 students with low predicted grades in English and social sciences were placed in the program. A study indicated 50 per cent had left the program by the end of the quarter. The most frequent reasons were good academic performance, dislike of the program, desire for transferable credit and friendship ties. By fall 1970 the program had become decentralized and reduced in scope. College Skills Program is presently a tutoring effort serving about 100 students with a staff of six fulltime and seven parttime personnel. Designed to reach students who have greatest need of the service, tutors are "planted" in classes where there is a high incidence of failure or where high-risk students gravitate.

Oakland Community College (Highland Lakes Campus)
Union Lake, Michigan
Program: Foundational Studies (Developmental Band)

Foundational Studies is a transferable general education curriculum of four courses in communications, natural-life sciences, humanities, and social behavioral sciences. The Developmental Band within Foundational Studies provides students with four credits a semester (two courses of two credits each) selected from the above curriculum. The major instructional emphasis is on attitude development rather than content mastery and basic skill development. "Student centered" faculty are chosen to teach and are provided in-service training for developmental instruction. The former director reported that enrolled
students generally rank in the lower one-third of their high school classes, score in the lower one-third of the ACT, and approach college with "studied indifference." The program is supplemented by learning centers providing individualized tutoring and self-instruction materials. In fall 1970, 250 students were enrolled in the Developmental Band taught by one parttime and six fulltime instructors. It was reported that 60 per cent of the students in the program continue a second year at the college and 24 of the original 60 in 1968 are still there; five have graduated.
APPENDIX C

VARIABLES AND CODING
## VARIABLES AND CODING SCHEME

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APPENDIX D

MEANS, GRAND MEANS, AND STANDARD DEVIATIONS FOR VARIABLES FOR GROUPS I AND II
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SELECTED BIBLIOGRAPHY


9. Davenport, Lawrence F., Mandamus for Change in Student Services, Presentation: April 5, 1972, Congress of Black Professionals in Education.


31. Thresher, B. Alden, "College Admissions and the Public Interest"

