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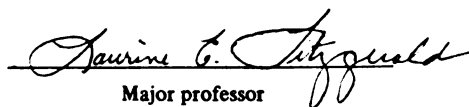
A Comparative Analysis of Upward Bound
and Non-Upward Bound College Students
at Oakland University

presented by

George A. Jackson

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ABSTRACT

A COMPARATIVE ANALYSIS OF LOW-INCOME LOW-ACHIEVING PRE-COLLEGE PROGRAM PARTICIPANTS AND LOW-INCOME LOW-ACHIEVING NON-PRE-COLLEGE PROGRAM PARTICIPANTS AT OAKLAND UNIVERSITY

By

George Arthur Jackson

The major objective of this study was to determine if students who have been identified as low-income underachievers in high school and recruited into a pre-college program, designed to generate the academic skills and motivation needed for success in higher education, perform better academically in college when compared to low-income under-achievers from the same target area high schools who were not recruited into the pre-college program, but who entered Oakland University through the Equal Opportunity Program for low-income underachieving high school graduates.

This study included only first-time, full-time students admitted to Oakland University in 1973 through its Opportunity for Disadvantaged Students Program. Each student admitted through this program met two criteria:

1. The student must have demonstrated financial need as determined by the Economic Guidelines of the United States Office of Education.
2. The student must have been an underachiever in high school and not "normally admissable" to Oakland University.

To insure that there existed no great differences between the pre-college subjects and non-pre-college subjects, with respect to their being low-income underachievers, the investigator used as the population,

only students admitted to the University by means of the Opportunity for Disadvantaged Students Program. This program is governed by the same strict United States Office of Education regulations as the pre-college program.

Although low-income underachievers, the subjects in this investigation were fully matriculating freshmen and subject to the personnel policies governing unconditionally admitted students.

The Experimental Group consisted of 26 black females, 22 black males, 3 white females, 4 white males, and 5 Mexican-American females. The mean high school grade point average for the group was 2.23 with a range from 2.15 to 2.52. The mean chronological age of the group was 17 years, 6 months. The Control Group consisted of 24 black females, 30 black males, one white male, one white female, two Mexican-American females, and two Mexican-American males. The mean high school grade point average was 2.27 with a range from 2.20 to 2.55. The mean chronological age of the group was 17 years, 8 months.

The data for the study was collected by requesting from the Office of the Registrar an official transcript for each of the 120 students who served as subjects for the study. The transcripts were evaluated for the determination of work completed beginning with the summer session of 1973 through the fall of 1975. The investigator felt that to measure persistence it was necessary to include more than one academic year to insure that ability was being evaluated and not the "survival effect" of the Upward Bound Bridge Program. The transcripts were divided into four groups and assigned a label as to major: Hard Sciences (biology, physical science, mathematics, and nursing), Soft Sciences and Humanities

(social science, history, art, and music), Professional Education (business and engineering), and Technical Education (medical technology). Each student's cumulative grade point average, total number of credits earned, and number of "N" grades received were recorded by major under each group.

Students whose transcripts did not carry a listing of courses for all five grading periods were placed on a list for the determination of their official status. If it was determined that a student was no longer officially registered with the university as a matriculating student, an evaluation of his or her academic status was determined through the Office of Readmission and Records. An attempt was made through the use of a questionnaire, personal interview, and telephone service to determine the present status and reasons for leaving the university and the program. Personal interviews were held with all former Upward Bound students who were in attendance at Oakland University. This procedure was used to obtain information from subjects that could not be obtained from the Personal Data sheet or the transcripts.

The following conclusions were reached, based upon the results of the study:

Grade Point Averages Earned

Low-income underachievers who participated in the pre-college program designed to generate the skills and motivation needed for success in college, earned higher grade point averages during five of the six semesters of their enrollment when compared to low-income underachievers who did not participate in the pre-college program.

Credits Accrued

Low-income underachievers who participated in the pre-college

program designed to generate the skills and motivation needed for success in college, earned more credits during the six semesters of their enrollment when compared to low-income underachievers who did not participate in the pre-college program.

"N" Grades Received

Low-income underachievers who participated in the pre-college program designed to generate the skills and motivation needed for success in college, earned fewer "N" grades during the six semesters of their enrollment when compared to low-income underachievers who did not participate in the pre-college program.

Attrition

Low-income underachievers who participated in the pre-college program are less likely to leave college for poor academic performance when compared to low-income underachievers who have not participated in such a program.

Quality Points

Low-income underachievers who participated in a pre-college program are more likely to earn higher quality points than non-pre-college program participants.

Total Academic Performance

Low-income underachievers who participated in a pre-college program and entered Oakland University in the summer of 1973 through the Opportunity for Disadvantaged Students Program, achieved more credits, higher grade point averages, and fewer "N" grades than non-pre-college program participants during the six semesters studied by this investigation.

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PRE-COLLEGE PROGRAM PARTICIPANTS AND LOW-INCOME LOW-ACHIEVING
NON-PRE-COLLEGE PROGRAM PARTICIPANTS AT OAKLAND UNIVERSITY

By

George Arthur Jackson

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so needed, a special thanks. To my daughters, Terri and Toni, who were too young to understand why time with them was limited, I owe a great debt because of the many hours that should have been spent with them, but instead went into the completion of this study.

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TABLE OF CONTENTS

	Page
List of Tables	vi
CHAPTER	
I. INTRODUCTION	1
General Statement of the Problem	1
A Description of Upward Bound	2
Introduction of the Problem	3
Definition of Terms	4
Limitation of Study	7
Significance of Study	8
II. REVIEW OF LITERATURE	14
Variables Which Affect or Produce Inequalities of Higher Education Opportunity	17
A. Financial Barrier	18
B. Minority Status	21
C. High School Curriculum	21
D. Poor Preparation for College	23
Evaluative Research and Compensatory Programs	26
Summary	36
III. DESIGN AND PROCEDURES	38
Setting	38
Source of Data	40
Selection of Students and Instruments Used	42
Subjects	46
Collection of Data	48
Type of Research	50
IV. ANALYSIS OF DATA	51
Hypothesized Findings	52
Comparison of Subjects Regardless of Major(s)	57
Additional Analysis of Data	59
Summary	63
V. SUMMARY, DISCUSSIONS, CONCLUSIONS, AND RECOMMENDATIONS . . .	65
Summary	65
Discussions	66
Conclusions	69
Recommendations	71
Implication for Further Research	71

APPENDICES	Page
A	73
B	78
FOOTNOTES	87
BIBLIOGRAPHY	89
VITA	93

LIST OF TABLES

Table	Page
1. Comparison of Students According to Mean Age, High School Rank, and High School GPA	44
2. Distribution of Subjects by Sex and Ethnic Group	47
3. Demographic Classification of Subjects	48
4. Comparison of Mean GPA for Pre-College Program Participants and Non-Pre-College Program Participants with Majors in the Hard Sciences	52
5. Comparison of Mean Credits Accrued for Pre-College Program Participants and Non-Pre-College Program Participants with Majors in the Hard Sciences	53
6. Comparison of Mean "N" Grades Received for Pre-College Program Participants and Non-Pre-College Program Participants with Majors in the Hard Sciences	53
7. Comparison of Mean GPA's for Pre-College Program Participants and Non-Pre-College Program Participants with Majors in the Soft Sciences	54
8. Comparison of Mean Credits Accrued for Pre-College Program Participants and Non-Pre-College Program Participants with Majors in the Soft Sciences	54
9. Comparison of Mean "N" Grades Received for Pre-College Program Participants and Non-Pre-College Program Participants with Majors in the Soft Sciences	55
10. Comparison of Mean GPA for Pre-College Program Participants and Non-Pre-College Program Participants with Professional Majors	56
11. Comparison of Mean Credits Accrued for Pre-College Program Participants and Non-Pre-College Program Participants with Professional Majors	56
12. Comparison of Mean "N" Grades Received for Pre-College Program Participants and Non-Pre-College Program Participants with Professional Majors	57
13. Comparison of Mean GPA Received for Pre-College Program Participants and Non-Pre-College Program Participants Regardless of Major(s)	57

Table	Page
14. Comparison of Mean Credits Earned for Pre-College Program Participants and Non-Pre-College Program Participants Regardless of Major(s)	58
15. Comparison of "N" Grades Received for Pre-College Program Participants and Non-Pre-College Program Participants Regardless of Major(s)	58
16. Summer 1973 Comparison of Mean Quality Points Earned By Pre-College Program Participants and Non-Pre-College Program Participants	60
17. Fall 1973 Comparison of Mean Quality Points Earned By Pre-College Program Participants and Non-Pre-College Program Participants	61
18. Winter 1974 Comparison of Mean Quality Points Earned By Pre-College Program Participants and Non-Pre-College Program Participants	61
19. Fall 1974 Comparison of the Mean Quality Points Earned By Pre-College Program Participants and Non-Pre-College Program Participants	62
20. Winter 1975 Comparison of the Mean Quality Points Earned By Pre-College Program Participants and Non-Pre-College Program Participants	62
21. Comparison of Mean Quality Points Earned By Pre-College Program Participants and Non-Pre-College Program Participants-Fall 1975	63

CHAPTER I

General Statement of the Problem

Traditionally, "higher education" has been designed for students of proven ability who had the necessary credentials and financial resources to be admitted unconditionally (Rossman, 1975). High school graduates who did not possess these necessary credentials and financial resources had to pursue some other avenue of postsecondary training or simply had to forget higher education. Thus, the option for many of this nation's youth became the welfare rolls, unskilled labor in a factory, or crime in the streets (Albert K. Cohen, 1970). Moreover, the barriers to higher education for the low-income under-achievers take many forms. Principal barriers which are now being eased by the burgeoning community college system and by state and federal student financial aid programs are the entry, financial, and distance (geographical) barriers.

"Open door" institutions, and provisions for equalizing the economic feasibility of continuing education beyond high school are, in themselves, not enough. The individuals in our society who have been restrained by economic necessity are also most frequently those who, because of the integral lock-step between level of education and employment opportunity, have floundered in the traditional educational programs of the public schools (Davis, 1975). The floundering may have resulted from the inability of the traditional system to create instructional strategies that were successful with such students, or from pervasive and self-defeating outlooks and limited aspirations of the nation's young poor, which have been harshly defined by the

realities they have known.

A Description of Upward Bound

America, seeking ways to end the tragic waste of human potential, under authority of the Economic Opportunity Act of 1964, established Upward Bound. This program was designed to generate (1) the academic skills, and (2) necessary motivation to prepare low-income underachieving students for success in education beyond high school (Greenleigh Associates, Inc. 1970).

To receive funding for an Upward Bound program, accredited colleges and universities and, in exceptional cases, secondary schools, submit project proposals outlining their plans to enhance the academic preparation and to improve the motivation of Upward Bound students by means of programs which can include remedial instruction, altered curricula, tutoring, cultural exposure, and encouragement so that the students can succeed in higher education.

Although the program is designed to help students who have completed the 10th and 11th grades, the Office of Education considers proposals to help students who have completed only the 8th and 9th grades when student dropout rates at such schools are severe. In contrast, the Office of Education Guidelines discourage the recruiting of students who have graduated from high school, because they would be enrolled in the program for only one summer, indicating that this would be too brief a period to allow adequate time for the project to provide the services and assistance needed in preparation for post-secondary education.

A typical Upward Bound project includes a summer and an academic year component. The summer component is a six to eight week residential program on a college, university, or secondary school campus where the students are provided academic and cultural enrichment classes, tutoring

sessions, and academic and personal counseling. The primary purpose of the academic year component is to maintain the gains made during the intensive summer session. During the academic year, each student's high school class schedule is developed with a high school counselor and a member of the Upward Bound staff to insure that students follow a college preparatory curriculum. Professional staff members from the Upward Bound project continue to maintain contact with the participants by means of Saturday classes, tutorials, career workshops, counseling sessions, and periodic cultural enrichment activities.

Introduction of the Problem

This study was designed to research the question: do students who have been identified as low-income underachievers in high school and then recruited into the Upward Bound program, at the conclusion of the 9th grade, and provided special help for the improvement of their motivation and academic skills, perform better academically in college when compared with low-income underachievers who were not recruited into the Upward Bound program and who entered college through an Equal Opportunity Program for low-income underachieving high school graduates? Specifically, the study examined the following sub-questions:

1. Do former Upward Bound project college students perform better academically than non-Upward Bound, low-income underachieving college students?
2. Is there a difference in the attrition rate of Upward Bound project students and non-Upward Bound students who enter Oakland University?

Thus, the study was designed to determine if there existed a significant difference between Upward Bound and non-Upward Bound students with respect to academic achievement and persistence in higher education. In an attempt to answer these questions, the investigator identified 234

low-income underachievers who had been admitted to Oakland University through the Opportunity for Disadvantaged Students' Program and who were provided full financial aid to the extent of their demonstrated need. Seventy-three of these subjects were determined to have been Upward Bound graduates. Sixty of these seventy-three qualified for the Experimental Group for this study. From the remaining students who graduated from the same target area high schools, a random sample of 60 students was selected to serve as the Control Group for the study. The investigator then attempted to determine the extent to which the two groups showed significant differences in (1) grade point averages, (2) credits earned, and (3) "N" grades received.

In seeking answers to these questions, the investigator examined the philosophy supporting Oakland University's program for the low-income underachieving student, giving specific attention to the historical development of support services at the university, and to the establishment of policies and procedures enacted to facilitate the admission and retention of such students. Part of the study provided information about admissions and financial aid, and the role of these services in Oakland University's support services for low-income underachieving students. In the following section, a definition of terms, relevant to the investigation, is provided to give additional meaning to the study.

Definition of Terms

Advisement

A process of supplying the student with factual information about the university.

Bridge Program

A six to eight week enrichment program for Upward Bound graduates

prior to their first full semester of college.

Cultural Exposure

Field trips taken by Upward Bound students to historical museums and artistic displays.

*Dropped Out in Good Standing (DOGS)

Students who dropped out of college in good academic standing and did not list as their reason that they were transferring to another institution.

*Dropped Out in Academic Difficulty (DOAD)

Students who dropped out of college in academic difficulty and did not list as their reason that they were transferring to another institution.

*Economically Disadvantaged Students

Students who meet the economic mean test of the United States Office of Education, and are from deprived backgrounds, with little opportunity, because of pre-college preparation, for success in higher education.

Equal Access

The guarantee that each individual should be able to enroll in some form of postsecondary education appropriate to that person's needs, capabilities, and motivation.

First Semester Freshman

A student who has never entered any type of postsecondary education prior to being admitted to Oakland University.

*Grade Point Average (GPA)

The conversion of letter grades to a four-point scale: A=3.50-4.00; B=3.00-3.49; C=2.00-2.99; D=1.00-1.99.

*Hard Science Majors

Students with majors in biology, physics, science, and nursing.

*Low-Income Underachievers

Students who meet the economic criteria established by the United States Office of Education and whose high school records and standardized test scores have rendered them inadmissible to college without special consideration.

*"N" Grade

The "N" grade (no grade) refers to a letter grade representing any students' academic performance of less than 1.00 points.

Non-Upward Bound Students

Students who have all of the characteristics of Upward Bound students but because of the limited number of students that can be recruited from target area high schools, they were unable to be recruited for the program.

Persistence

The number of semesters completed by full-time students subsequent to initial semester enrollment.

Poor Preparation Barriers

Students who lack the necessary skills, in spite of financial aid, to achieve in post-secondary education.

*Professional Education Majors

Students with majors in business and engineering.

*Quality Points

A combination of grade point average and credits earned in a given semester.

*Soft Science Majors

Students with majors in social sciences, history, art, and music.

*Summer Support Program

An eight week program open to all first-semester freshmen, prior to their freshman year. This program provides for the educational deficiencies of each participant through small classes, tutoring sessions, workshops, seminars, and counseling. Each student receives eight credits if he or she successfully completes the program.

*Transferred In Good Standing (TIGS)

Students who transferred to other institutions in good academic standing.

Underprepared Students

Students admitted to college lacking many of the basic skills for college work.

Upward Bound Students

Students who are admitted into the Upward Bound Program.

*Terms used at Oakland University and germane to this study.

Limitation of Study

The following limitations were evident as the investigator attempted this study:

1. Standardized test data to help support degrees of underachievement were not available for all subjects.
2. This study included only Upward Bound students who had graduated from the program and entered Oakland University (Rochester, Michigan) as college freshmen.
3. Because the definitions of "Disadvantaged Students," "High Risk Students," and "Low-income Underachieving Students" lack standardization in their meaning, the utility of studies in this area is somewhat restricted.

4. Hard data is not included on those students who "dropped out in good academic standing" (DOGS).
5. In evaluating pre-college programs designed to prepare low-income underachieving students for post-secondary education, it is difficult to determine specifically what factors are responsible for success or failure of students.
6. The study did not lend itself to true experimental research.
7. This study dealt only with urban low-income underachieving students from inner-city high schools and involved only a small number of poor whites, Mexican-Americans, and no Puerto Ricans.

Despite the limitations, a need for research in this area still exists. This research will enhance an institution's knowledge about how to provide low-income underachievers and underprepared students with basic skills for success in education beyond high school. Without this knowledge, and a delivery system to provide the basic skills necessary for successful achievement, these students will face obstacles to equal access, achievement, and persistence in higher education, despite "open admissions" policies.

Significance of Study

Since the early 1900's, higher education in America has been attempting to respond to the ever-changing needs of an increasingly technical society. As the principles of our democratic society are tested and exercised, such concepts as Civil Rights, equal educational opportunities, and affirmative action for minorities and women become matters of national interest and concern.

As a result of social change, higher education is now available to

high school graduates who were once labeled "non-admissible" by admission standards of our colleges and universities. Cross, in speaking of
1
this change in higher education, states:

"A group of young people whom we used to dismiss as "not college material" are now walking through the open doors of colleges, and they constitute a growing proportion of the college population. Numerically, most of the students graduating in the lowest academic third of the high school classes are not ethnic minorities but rather the low-achieving white sons and daughters of blue-collar workers. For one reason or another, these students have not done well in school; they are students who by definition are not prepared to do college work."

On this same subject, an article in the Guidepost, reacting to a
2
report by the College Entrance Examination Board, pointed out:

"SAT scores began to decline in 1964; however, the 1975 graduates have declined the most. The average verbal scores for all juniors and seniors is 368 and 434 for the college-bound graduates."

A report published in the "Chronicle of Higher Education" raises
3
further concerns about the academic abilities of incoming college freshmen:

"...the market for 'rigorous' materials--those written at the 12th grade level or higher--is dwindling so more and more materials are being prepared for college students whose reading skills are at the 8th grade to 10th grade levels. The growing use of readability formulas and the re-emergence of traditional textbooks reflect the concerns of college faculties with the reading and writing skills of their students. In one instance, they are seeking material that students can understand, and in another they are seeking basic approaches to help high-ability students develop those skills."

According to a report by Frank Newman (1971), underachieving students will comprise more than half of the population of students now gaining access to higher education.

Since high school graduation is no longer the termination point of education for many students once labeled "inadmissible" to higher

education, the pre-college training received by these students has greater life-long implications. Moreover, higher education is no longer a "privilege," but now is perceived correctly as a "right," (Financing Postsecondary Education 1973). Steps must be taken to insure that this "right" is not removed from those students who have all the liabilities that include poor study habits, poor self-image, ill-advised high school curriculum decisions, and other factors which produce the low-income underachiever who is currently gaining entry into higher education.

"Open Door" policies have made it possible for underachieving students to be given access to higher education, but very little has been done to develop the academic skills the students need to profit from this opportunity. Therefore, inadequate pre-college training threaten equal opportunity for persistence and academic achievement for the low-income underachiever. The recognition by institutions of higher education that many potentially able college students are handicapped by inadequate pre-college educational training is in itself a herculean recognition and one of the most dynamic trends in American higher education. However, the task of translating this recognition of equality and educational opportunity into operational terms in order to be more effective, efficient and equitable, still remains.

The barriers to higher education are many for low-income underachieving students. Crossland (1971) categorized the barriers into six different types: (1) the test barrier; (2) the barrier of poor preparation; (3) the money barrier; (4) the distance barrier; (5) the motivation barrier; and (6) the racial barrier. Other barriers that may deserve separate consideration are: (7) the elitism barrier, or the barriers that are suggested by the reluctance or inability of some

institutions to adjust to new kinds of students, or by differences in recruitment--not only the student who is overtly and actively sought, but also, more subtly, the student who receives sufficient information about opportunities, and which of these opportunities is to seem a safe vehicle for the student's aspiration; and (8) the self-concept barrier, which may be defined as the sumtotal of all those forces which might lead a potential student, long bombarded by prevailing discriminatory attitudes, to view aspiring for higher education as unrealistic.

The Higher Education Act of 1965 and subsequent amendments have eased the financial and distance barriers to some measurable degree. Open admissions by postsecondary institutions have removed some of the test barriers. But, colleges and universities with open admissions policies have been reluctant to acknowledge and develop curricula for the removal of the poor-preparation barrier. Many colleges and universities state as concern the effective utilization of faculty and plant resources, and the stigma against such activities that the elitist forces in the system mandate. Still another argument is that remedial work is more noted for its failures than for its successes (Rouch, 1968). As institutions continue to debate about who has the responsibility to prepare students to achieve to the capacity of their potentials, minority students continue to present the greatest casualty rate in colleges and universities. On this same subject, Crossland provides the following findings:

"Minority students (1) fail more frequently to graduate from high school, (2) are more frequently counseled into non-academic high school programs, (3) more frequently come from schools with faculty facilities, and cultural resources below the national average, and (4) usually attend segregated schools where they can have no experience competing with majority students."

All of the aforementioned factors, which can be referred to as "preparation factors," are essentially environmental rather than personal in nature.

For low-income underachieving students, educational opportunity beyond high school may already be limited. Thus, there are few reasons for one to wonder why the options for many of American's youth is crime in the streets, unskilled labor, or the welfare rolls.

There is much discussion today about the relevance of higher education and the marketable value of a college degree. However, when one considers that students graduating from high school this spring will still be under the age of 50 at the beginning of the twenty-first century, poor pre-college preparation takes on a new meaning. Because of our rapidly changing economy, many of these students will be forced to change occupations many times (Wisdon, 1969) making it extremely unlikely that pre-college institutions can do the complete job of preparing students to share in a democratic society. Thus, society will suffer great losses if these potential students are not given an opportunity after high school to prepare both for better citizenship and job opportunities.

The Upward Bound program is not designed for all students who have academic deficiencies. The program is for those students of greatest financial need. Upward Bound was initiated in response to the "crisis situation" that arose with the emergence of the disadvantaged students on college campuses after the passage of the Higher Education Act of 1965 (Newman, 1971). And, because of limited financial resources, the program is able to reach only a limited number of students.

Therefore, as more low-income underachieving students gain entry to

colleges and universities, it will become increasingly more important that higher education look at what type of successes, if any, "Support Programs" (Upward Bound) have had in preparing these students for college. With these findings, it is hoped that institutions of higher education, Oakland University in particular, will be in an advantageous position to design and to help pre-college institutions implement programs which will remove the poor preparation barrier to higher education for the increasing number of low-income underachievers, who now comprise more than 50% of the college-bound population. Hopefully, these findings and conclusions can be used to provide a greater chance of equal access, persistence, and graduation for the low-income underachievers.

CHAPTER II

Review of Literature

The background literature directly related to this study can be grouped under the following: (1) the historical development of equalizing educational opportunities for the disadvantaged; (2) variables which affect or produce inequalities of higher education opportunity; (3) evaluative research and compensatory programs.

According to Astin (1975) the movement toward equal opportunity in American Higher education dates back to the Morrill Act of 1862, which was the legislation for the development of land-grant colleges. From a minute number of colonial colleges modeled after elitist European institutions, American higher education has evolved into the largest and most accessible system in the world. American higher education expanded at a tremendous rate between 1900 and 1970; the proportion of 18- to 21-year olds attending college rose from 4% to 40% (Carnegie Commission, 1970, p.2). Yet, today, American's most visible minorities (Blacks, Chicanos, and American-Indians) have not benefited from this movement to approximate their proportion of the population, and are therefore, excluded from a share of America's affluence (Astin, 1975). Findings from a United States Office of Education "Task Force Report on the Disadvantaged and Post-secondary Education" provides information in support of the inequities and needs of the disadvantaged:

"Socioeconomic status - Research relating low socioeconomic status and educational attainment provides evidence that only one out of every two will ever attend college. Of that same upper quartile of high school graduates, only one in five, will graduate from college.

Minority status - In 1970 minorities constituted 16.8% of the United States population, but only 10.6% of postsecondary

undergraduate enrollment.

Of minorities enrolled in postsecondary institutions, only about one fourth are enrolled in the upper division. Many minority students in community colleges are in terminal occupational programs.

In graduate and professional schools, minority enrollment is disproportionately low--comprising only 5.8% of the total enrollment.

Spanish surnamed - Spanish surnamed Americans, representing 4.6% of the total population, comprised only 2.1% of the enrollment in higher education.

- a. Chicano - In an analysis of five southwestern states, approximately 76% of the white population aged 25-29 completed at least four years of high school compared to 52% of Spanish Americans.
- b. Puerto Rican - It was reported that in New York and New Jersey, which contain the vast majority of the Nation's Puerto Ricans, nearly 77% of whites compared to 30% of Puerto Ricans between the ages of 25 and 20 had completed at least four years of high school.

Native Americans - It was reported that an overall dropout rate of 50 to 60% from elementary and secondary schools is customarily cited. Where Native Americans are reported as comprising .4% of the total population, census figures showed them as only .23% of higher education enrollment.

Blacks - While comprising 11.1% of the total population, blacks comprise only 6.9% of undergraduate enrollment in colleges and universities. It has been noted that black enrollment peaked in 1972 and has declined since that time."

Therefore, if one is poor, a member of the ethnic minority, or physically disabled, one's chances of successfully entering and completing postsecondary education are much less, compared to the rest of the society. These examples of exclusion and unequal participation indicated that much remains to be accomplished in the area of equalizing opportunity and that there is a tremendous loss of talent because of the elitist design of higher education.

Other studies (Etlioni and Milnu, 1970; Jencks and Riesman, 1968; Sewell and Shah, 1967) have indicated that traditional admission standards of higher education have resulted in providing the greatest opportunities to those students who are the most economically and socially advantaged.

The system of meritocracy continued until pressure from Civil Rights organization, the courts, and the United States Congress forced institutions to reevaluate their admission policies and begin recruiting members of disadvantaged groups. But the recruits were "talented" disadvantaged youth who were not an academic risk (Gordon and Wilkerson, 1966).⁶ Egerton, on this same subject, concluded that:

"The bright and able student who could not afford to go to college--whether he was white, black, Indian, Spanish-speaking or whatever--was being sought by a growing number of colleges. But those whose past academic performance was poor, represented a risk that very few colleges were willing to take."

Thus, the meritocracy of high school grades and aptitude test scores were maintained and many students of low socioeconomic status, both black and white, were shut out of higher education.

As a result of the struggle for egalitarianism in the late 1960s, higher education began opening its doors to students, who, until then, had been largely excluded--minorities, blue-collar youth, and women. Colleges proudly displayed statistics showing increased minority enrollments and pointed to new scholarship programs for the financially disadvantaged. Open admissions policies were instituted to provide access for students with marginal secondary school records.

With the embracing of open admission by many colleges and universities, enrollment trends began to change. Students who had long been

denied access to the doors of higher education began to graduate from high school and enter higher education. Berls concluded from data on college entrance that:

"Nonwhites doubled in college entrance and somewhat more than doubled in high school graduation over the period 1935 to 1962...For (the six years since 1962), 1963-68, whites increased their high school completion and college entrance rates 31% and 77% respectively. Nonwhite rates grew much more rapidly: 140% for high school education and almost tripled (191%) for college entrance. Whereas it took from 1935 to 1962 for whites to double their college rate, and somewhat more than double their high school completion rate, nonwhites more than doubled their high school completion and almost tripled their rate of entrance to college in only 6, rather than 27 years. The white rate of growth for these two thresholds is slowing down."

It was soon learned that "open admission" by itself was not enough to complete the promise of equalizing educational opportunity, and by 1970 pressure for additional reform was mounting. Many commissions were enacted to study the problem of disadvantaged students in higher education. Their findings included some alarming statistics about the failure of the system to engage and hold disadvantaged students. The Newman Report (1971) states, "only about one-third of those who enter college each year will complete a four year course of study." Moyer (1972), on the same subject, stated that dropout rates for the "new students" were even more alarming because only one-half completed the first two years. Reports such as these made it evident that if higher education was going to carry the egalitarian concept beyond its doorstep, it must provide a more rewarding educational experience for the low-income underachieving and underprepared college students.

Variables Which Affect or Produce Inequalities of Higher Education Opportunity

The underrepresentation of the disadvantaged in higher education

prompted much speculation and some substantial research regarding the barriers to equal access of higher educational opportunities. In the course of the research process, this investigator found the following barriers most frequent: lack of financial resources, minority status, high school curriculum, and poor preparation for college.

Financial Barrier

No barrier to higher education in the last ten years has received more extensive study than the barrier of finance. Davis (1975), in an extensive review of the literature, found more than 100 reports and studies on the subject. He found that for the very poor, costs of attending college may be divided among three types, each very real to the student: (1) direct costs, or the actual bills that accrue for tuition and fees; (2) indirect costs, or those other expenses he finds he must meet as a consequence of college attendance--food where served, books and transportation as required, and (3) "foreign" costs, or the income, frequently desperately needed by his family, that he gives up by not entering full-time gainful employment. In recognition of all these elements in the financial barrier, Gordon states:

"It is clear, however, that the question of financial resource support for students and programs is one of the most critical problems. If we do not have massive funds available for higher education and the tangential costs of income substitution for the families involved, we simply cannot talk seriously about higher education for large numbers of low-income young people."

A number of reports Davis reviewed concerned themselves principally with the needs of blacks. In an attempt to gauge the comparative financial need of black and white college students, Bayer and Boruck made the following observations:

"More than 60% of black students in black colleges come

from homes with less than \$6,000. annual income.

Almost 50% of black students in white colleges come from homes with less than \$6,000. annual income. This compares with 13% of white students in white colleges.

Twenty-five percent of white students are from families with more than \$15,000. annual income. This figure compares with 8% of black students in predominantly white colleges and 6% of black students in predominantly black colleges."

Today the median age of blacks in the general population is 22 (Crossland, 1971), while the median age of whites is 28. More than half the blacks below the poverty level are younger than 18. This may mean that the next decade will see an even greater number of black students applying for admission, and often, financial support.

The complexity of problems for the low-income black is well documented by McClellan (1970). In addition to difficulties already noted, these problems include difficulties in completing forms needed to apply for aid, lack of parental interest, marginal and seasonal employment of many low-income families.

The experience of Antioch College is further illustrative of some of the problems connected with financial aid for low-income underachieving students:

"The use of the College Scholarship Service forms is complicated by the fact that a number of the students do not maintain any relationship with their families. There is a wide range of practice in the degree to which parents have participated financially. Parents of 21 students were expected to contribute less than \$100., 30 did. Of the 13 who were expected to contribute between \$200. and \$500., 8 actually did, and the 3 who were expected to contribute \$700. - \$900. contributed nothing."

The necessity for providing enough financial aid to each student and the need for support throughout their stay in college, even when grades are yet unsatisfactory, is essential for the retention of the

disadvantaged in higher education. The recent study conducted by the Cartter Commission on Student Financial Needs found that this support is rarely achieved. The Commission reached the following conclusions:

"In public institutions, the average effect of applying for \$1,000. in aid was to reduce probability of admission by 11%.

The students most likely to be excluded from higher education by insufficient financial aid are those with the highest need.

Financial aid is often used competitively to entice the best students, rather than the most needy applicants.

Colleges grant disproportionate aid packages to students with higher measured academic ability. (This practice is presumably based on the knowledge that these individuals will be more likely to repay loans shortly after graduation.)

For blacks, the evidence indicated that greater financial need had a significantly negative effect on the probability of admission in every case."

Finally, in cataloguing the complexity of responsibilities faced by disadvantaged students, the Commission notes that:

"Youth from low-income families, however, do have special problems. Low-income groups are most commonly from families where foregone income would be severely missed; where community environment is less conducive to college attendance; and where unanticipated expenses such as legal aid, illness or death, evictions, and credit foreclosures can have a devastating effect on the student who shares in family responsibility."

As a needed note of caution, however, from a national sample, Jaffee and Adams (1971a, p. 11-13) found that although there was the expected relationship between income and college entrance, the type of high school curriculum and academic self-image in high school had much stronger relationships to college attendance than did income.

Although the financial barrier is real for those from low-income families, it is not the major determiner of college entrance, at least

for those from low-income families who now enter college. This suggests that we should not overestimate only the potential effect of increased financial aid upon college going or on persistence in college.

Minority Status

Most of the literature on minorities in higher education is written about one minority--the black American. Quality studies on low-income underachievers who are members of other minorities is very limited. The little literature with respect to access, achievement, and persistence of minorities in higher education seems to indicate that by being members of minority groups, they are more likely to receive the poorest pre-college training, thus, limiting their opportunities for continued education (Kapel, 1968). Studies by Crossland (1970-71) show that 27% of black men and 20% of black women dropped out of high school in contrast to 10% of white men and 13% of white women. A study by Bayer and Boruch (1968) pointed out the lack of skills as an implied serious threat to higher education for minorities who do graduate from high school.

Leslie Berger (1972) concluded from a study of minority students that environment and educational systems conspire to rob students of motivation and deny poor students realistic chances to acquire skills taken for granted in middle-class children. He further concluded that by being in a minority quickly caused college instructors to conclude that such students are not educable.

High School Curriculum

Two studies reviewed on the subject of high school curriculum indicated its importance. Jaffee and Adams (1970), of eight variables studied, found the high school curriculum a student followed had by far

the strongest relationship to college entrance, the type of college entered, and the persistence of the student in both two and four-year colleges. The college preparatory entrant tended to select senior rather than junior colleges. College preparatory students were predominant among all college entrants in junior as well as senior colleges. The authors had predicted before concluding the study that the elimination of the college preparatory curriculum as an important criterion for college entrance would result in an increase in non-college preparatory students and an increase in the dropout rate. They estimated that more than two out of three entrants would drop out as more non-college preparatory students continued to enter two and four-year colleges. The findings from the study supported the author's predictions. Less than four out of twenty college preparatory students dropped out from four-year colleges and nearly nine out of twenty entrants dropped out who followed the non-preparatory curriculum. The attrition rate in two-year colleges was even higher; eleven out of twenty college preparatory entrants dropped out, compared to fifteen out of twenty students who followed the non-preparatory high school curriculum.

13

The authors stated, after evaluating their findings:

"Education and educational officials appear to have considerable awareness of the pivotal role of curriculum choice for college entrance and for the type of college entered, but less awareness of its relationship to continuation or dropout from college. Nor do they seem to be aware of our inferential finding that it is not only the curriculum per se that determines post-high school behavior, but also, and perhaps more significantly, less understood and enduring social and psychological correlates of the curricular decision in the student's early teens."

This study has led other authors (Cohen and Florence, 1970) to state that perhaps the time has come for a total reconsideration of the high

school tracking system; that what may be needed is better pre-college counseling and preparation for higher education.

Majorice O. Chandler (1974) concluded from a longitudinal study on the high school curriculum choice of students that the curriculum followed in high school correlated highly with college access and persistence. From a representative sample of 21,000 seniors in 1,200 schools, she found that 88.3% of the students who completed a college preparatory curriculum had aspiration for college. Fifty-five percent of the students who took a general curriculum had the same aspiration. Thus, the importance of the curriculum followed in high school, both in relation to college plans and eventual attendance, stands out as one of the most critical issues in higher education today.

The unfortunate findings of the two studies noted is that the students who followed non-college preparatory curriculums, once admitted to a college or university, quickly became aware of their lack of preparation for college work and asked that greater emphasis be place on basic academic subjects such as English, mathematics, and science.

Although the degree to which choices made in high school may have life-long implication for its graduates and dropouts is not completely known, the Jaffe-Adams and Chandlers studies does give support to the need for more information regarding the relationship between high school curriculum, college entry, achievement, and persistence.

Poor Preparation for College

The question of a lack of basic skills obtained national recognition with the publication of the Coleman, et. al. Report (1966). He found that 12th grade blacks, Mexican-Americans, Puerto Ricans, and native Americans are from 2.0 to 4.1 grade levels behind the average

white in the metropolitan northwest in reading comprehension, and from 3.0 to 5.7 grade levels behind the same comparison group in mathematics achievement. The emotionalism attached to this report and the issues it explored may explain in part the lack of scholarly research on the subject. However, some authors have provided findings which attest to the problems created for college-bound students by a lack of basic skills. Moore described students who lacked basic skills as marginal

14

and stated:

"These students are deficient in the traditional language arts (reading, writing, listening, spelling, speaking, grammar) and mathematics. The average high-risk student, after more than a decade of experience in the elementary and secondary schools, has not mastered these skills. He cannot read well enough to handle the traditional complexities of college bibliographies. He has not come to terms with the comprehensive and manipulatory skills in mathematics. And he has a blind spot when he is requested to write a theme or term paper."

Gordon in his 1966 publication on compensatory education found that for many students completing high school with aspiration for college,

15

the lack of basic skills was a major barrier. He added:

"When we turn to a concern for disadvantaged populations and the current effort at universalizing access so as to include these students, we have as an additional problem the fact that many students from low-income and minority group populations are diverted from the academic stream as early as third or fourth grades by archaic tracking procedures."

The lack of basic skills was seen by Gordon to be a total lack of academic preparation. He further stated that it was not unusual to find college students reading on a fourth or fifth grade level. To make college meaningful for these students, he felt that basic courses had to be developed and implemented.

Studies by Ferrin (1971), Williams (1968), and Roueche (1968) support

the findings of Gordon, but add that the problem of a lack of basic skill is not a local one, but was found to exist in every region across the country. Morse (1974) stated, with respect to the preparation of students for college, that an open admissions policy can be a very cruel policy for the student who is ill prepared in high school. Institutions of higher education which admit all who come are either entirely dependent upon the quality of education offered those students at the secondary level or they are willing to develop the necessary curricula to equip the students for college work. To do otherwise, he states, simply delays facing students with the fact that they cannot succeed in college and dismissing them for academic deficiencies during the first two years. In either case, the student is not served. The best that can be said about the latter is that the student is given one last chance before being pushed into the world with little or no preparation. Denials (1972), in speaking with respect to barriers which prohibit equal opportunity of higher education, stated that the real barrier to college for students at lower achievement levels and for students with talents other than the traditional academic ones is college instruction. Such instruction calls for a degree of mastery of basic skills, a lack of which will consequently cause many students to leave higher education prematurely. Therefore, equal opportunity for these students will not be provided because they will not have had an equal opportunity to learn. The situation in his opinion calls for better pre-college preparation and/or strategies to adapt instruction to the special talents, backgrounds, abilities, and needs of the students enrolled.

This review of the literature has been important to this study as the investigator attempted to assess the impact of various barriers on

access, achievement, and persistence in higher education for low-income underachieving and underprepared college students.

Evaluative Research and Compensatory Programs

Compensatory education, by the literature reviewed, is referred to as education which attempts to reduce or eliminate the effects that disadvantaged conditions have had on applicants who are not fully qualified to enter an institution of higher learning, according to criteria presently used in the admissions process. There is a great diversity of views as to what extent underprepared students require compensatory education and what its functions and efforts ought to be (Cash, 1970). At the one extreme are those who believe that students from disadvantaged backgrounds are just as able to complete a college education as other students, and do not require any remedial or compensatory education. At the opposite extreme are those who believe, as Jensen, that the roots of disadvantaged conditions rest in biological differences which no amount or kind of education can eliminate. This view has found recently renewed support. Still others hold that while there may be no biological differences, pupils not reached by the time they complete primary school, or at the latest, high school, cannot catch up.

The more moderate positions (Dawson, 1972) range from those who hold the belief that a limited program of evening classes or a summer's pre-enrollment will suffice, to those who hold that encompassing and prolonged efforts are necessary. Those who are of this latter opinion maintain that even an intensive program will only serve to reduce, but not eliminate the effects of the disadvantaged background. The optimists put some faith in making the existing educational structure available (Biskin, 1971) while the pessimists argue that far reaching changes in the structure are

necessary, before it will be accessible to all.

This review of literature will look at studies designed to evaluate the effectiveness, efficiency, and equity of programs created to deal with the barriers which limit access, achievement, and persistence for academically and economically disadvantaged college students.

One of the first studies of compensatory programs in higher education was done by Gordon and Wilkerson in 1964. An attempt was made by the authors to gather information to assess the effectiveness of compensatory programs in higher education. In an attempt to get information, more than 2,000 questionnaires were mailed to institutions of higher education throughout the United States. About 30% of the responses came from colleges with graduate schools and who reported that their programs were for non-black students. A significant percentage of the respondents reporting were from black institutions. Gordon specifically requested information on compensatory efforts that were designed for students whose past educational experiences, environmental conditions, and socioeconomic situations indicated a need for programs of remediation, if they were to survive and succeed in institutions of higher education.

The institutions reported a variety of supports for students, the principal one being guidance and counseling. The authors concluded that a second level of institutional support was required if support effort was to be effective. The second level, stated the authors, should be a comprehensive support system which included, in addition to guidance and counseling: tutoring, skill development, and innovative instructional practices at the earliest stage possible.

In 1968, John Egerton made a national survey of compensatory programs. He defined "high risk" students as those who lacked money, had

low standardized test scores, erratic high school records, and whose race/class/cultural characteristics placed them in a disadvantageous position in competition with the number of students in college which the disadvantaged student wished to enter (p. 7).

Egerton sent surveys to 215 colleges and universities. One-hundred sixty-two institutions responded to the survey. Eighty-six reported some measure of involvement in what could be high risk activity. Sixty percent of the responding public institutions reported no high risk programs of any type, while two-thirds of the private institutions indicated some involvement. Responses from major public institutions, most of them land-grant institutions, showed that almost three-fourths of them had no high risk activity.

Egerton concluded that few institutions showed activity with high risk students whose past academic performance was poor; nor had those institutions which had admitted high risk students resolved the dilemma of what to do for them once the student was admitted.

A series of studies by MacMillan and his associates at Santa Barbara City College (LeBlanc and MacMillan, 1970) documented the financial and scholastic disadvantage of students in the institution's Extended Opportunity Program, and found that tutoring improved retention rates or that those who accepted tutoring were more likely to persist than those who did not. The findings also suggested that financial assistance alone is not enough to maintain students who have poor basic skills in school.

In 1971, Etzioni in search of proof for or against the impact of compensatory programs on the barriers to higher education, concluded
16
after reviewing 150 different studies:

"...that evaluating the effects and benefits of this approach is an extremely difficult undertaking. No piece of evidence with which I am familiar supports the notion that, by putting disadvantaged students through a few courses, seminars, weekend workshops, or summer sessions, one can remedy the effects of four hundred years of discrimination or of the four or five years that separate disadvantaged students from their academically prepared classmates. One does find in the literature the cases of three students here and eight students there who have benefitted from such programs; however, the main conclusion from the same body of literature points to the need for reaching the disadvantaged student as early in his academic career as possible."

Klingelhofer and Longacre concluded after reviewing the progress of

17

52 Extended Opportunity Program (EOP) students:

"...that EOP students persist and progress as well as other students, but that their performance is clearly and significantly below that of the typical student. There should be small solace in the progress or persistence figures; however, only a minority of students, whether EOP or regular admittees, resemble the students who live in the imagination of faculty members for whom the courses of study described in college catalogs exist. About one-half of the students drop out; those who do complete their course of study will need an average of five years or more to graduate. And on this melancholy scene, EOP students earn lower averages, make more unsatisfactory grades, and are more likely to leave in poor standing or to be disqualified academically than the ordinary entrant. But these facts have to be considered in context. The EOP students were in almost every instance extremely high risk; their background and preparation were weak; and they were the first small group of students enrolled at an institution which had almost no minority students, although one-fifth of the community in which it existed was made up of minority groups. Potentialities for success were also somewhat jeopardized by a college which to some extent lacked both the skill and will to accommodate this new clientele."

Walz, Kravas, and Wirt, in a review of a variety of experiences in providing services to students from disadvantaged backgrounds, concluded

18

that:

"1. A growing body of literature indicates that

compensatory programs may not be the most effective means of maximizing individual potential.

2. Programs in which the student enrolls in the regular curriculum, but which provide ample support services, facilitate student adjustment to the institution.
3. Students need better information on financial aid.
4. A successful program must have full institutional commitment from students, faculty, and administration."

These conclusions, however, are based more on observation and opinion than on experimental study of programmatic factors that are related to improved probabilities of survival in college.

In November 1968, Robert L. Williams published his exploratory study on disadvantaged students. He found that most colleges and universities were quite selective when it came to the recruitment of disadvantaged students and that most of the programs explored accommodated relatively small groups of students in relation to the size of the institution. Williams found that most programs had some form of financial aid as a component and that their primary academic focus was the development of communication skills--writing, reading, speaking, and listening (p. 5). Of the host of intervention strategies to equip disadvantaged students for academic and personal adjustment to colleges, Williams stated that it was extremely difficult to determine specifically what factors are responsible for success of programs. He suggested by evaluating programs one should try to gauge the effectiveness of some of

19

the following components:

- "1. institutional commitment to the program
2. financial aid (Are some forms more beneficial than others?)
3. special housing (Should separatist facilities be set up?)
4. intensive orientation (Should students be made

- aware of their academic deficiencies?)
5. special courses and small-group instruction
 6. tutorial assistance
 7. personal counseling
 8. help in managing financial resources"

Beyond an identification of program components, Williams asks the following provocative questions about special programs: How much financial support is needed to enable the student to assimilate into the university? Will assimilation between races occur if special housing is provided for the disadvantaged? Should students attend all classes with model students, or should special courses be established?

While Williams' suggestion on evaluating program components may be a valid one, the literature reviewed presents even fewer attempts by studies designed to empirically assess the effectiveness of various components of compensatory programs. The studies dealing with compensatory education and their effectiveness tend, in general, to be more descriptive and a priority than empirical.

The review of literature with respect to programs created by federal legislation to deal with the barriers limiting access, achievement, and persistence to higher education left a lot to be desired. Most studies were designed to evaluate the impact of financial aid made available to needy students. Few studies were found that evaluated compensatory programs' attempts at removing the poor preparation barrier. In 1972, Helen Astin, et. al. published a study funded by the Office of Economic Opportunity. The major question which the authors sought to answer was: Do compensatory programs help the underprepared, specially admitted students to make the educational and social adjustments needed to complete a college education? They concluded that most programs evaluated lacked definite structure and clearly defined goals. They

suggested better planning and more extensive evaluation procedures. However, they did find that students who sought help early achieved better than students who showed no records of seeking help.

Nathalie Friedman did a study in 1971 to assess the extent to which the goal of extending the opportunity for higher education to high school graduates of exceptional financial need was being achieved. To gain information from which to answer this question, more than 1,939 institutions of higher education were involved with an estimated 269,000 students. Friedman concluded that the Equal Opportunity Grant (EOG) had made a significant impact on the financial barrier faced by financially needy students. But in reaching this conclusion, she unearthed the disturbing fact that those who needed most help received the least assistance. The financially disadvantaged student who suffered from academic deficiencies was found to be the same student with the least equal opportunity for an education beyond high school. Only 11% of the students receiving an EOG could be classified as high risk! Most of the EOG students came from the top quartile of their high school class.

The Cartter Report (1972) supported the findings of Friedman (1971) when it reported that students with the greatest financial need meet the greatest difficulty in being admitted to colleges. Students with better records for past achievement receive aid in the form of a grant more frequently than do poorer students with lesser measured ability.

The federal government's major thrust in an attempt to guarantee that every student with the ability to pursue a higher education should be able to do so regardless of income, race, or place of residence was to provide additional financial aid resources. When it was discovered that the populations for whom such programs were intended still remained

underrepresented in higher education, Alice M. Rivlin, Assistant Secretary of United States Office of Education, was directed to do a study. The Rivlin Report (1973) was consistent with others who implicitly or explicitly called attention to the barriers of poor academic grades and poor study habits in addition to the student's low-income status.

Findings from the Friedman, Cartter, and Rivlin studies led Gannon (1974) to the conclusions that poor preparation for college, resulting from a lack of basic academic skills, is the major barrier to higher education, in spite of federal, state, and local financial aid.

While the majority of the studies supported by the federal government dealt more with access than the specific achievement and persistence of students, some studies have been concluded which attempted to speak to these variables. Brody and Schenker (1972) in a study created by the New York Board of Education evaluated the College Discovery and Development Program (CDD) located in five New York borough high schools. The study covered the program for the year 1969-70. The objectives of the program were stated as: "to discover and develop the college potential of disadvantaged youth who, without the benefit of intensive and long-range educational support of a special nature, would be unlikely to enter colleges." The specific objectives were to improve their motivation for work; to develop their expectations for college entrance, and improve their chances for success in college (pp. 6-7). To determine the degree to which the program had assisted students in accomplishing the above objectives, a group of students, non-project participants, were identified as a Control Group. It was later discovered that the Control Group was not comparable in socioeconomic background to CDD students. Using high school graduation, college entry, and college grade point averages, the

author concluded that their program had made a difference. The findings, however, were somewhat tinted, as stated earlier, when it was discovered that no comparable group existed in addition to the author's failure to clearly establish the subject as students lacking in basic skill and thereby not fit for college work. The findings were further complicated when it was discovered that the institutions which the subjects entered had open admission policies. In total, the evaluation design of the study was found to be defective because of a lack of assessment of basic skill needs and a lack of control or comparative groups to give meaning to results. However, this investigator found the study useful as a basis for the current inquiry.

As more and more students enter colleges and universities with marginal skills, efforts to determine what assistance beyond financial aid was being given were needed. However, most attempts were exploratory in nature and not empirically designed to determine the degree to which compensatory efforts had been successful. Roueche and Kirk, in their attempt to study the effectiveness of programs aimed at students with low academic achievement, found little evaluative data. They stated:

"No national figures are available that reflect the millions of dollars effort at remediation by the nation's community colleges. Perhaps more important, there is little research to indicate whether or not such an effort is successful."

The author set out to present and evaluate the situation as it existed in 1968. However, he did not personally investigate or evaluate remedial programs, but depended on descriptions and summary evaluations or progress reports. Consequently, the work contributed little to evaluation research.

The methodology used to evaluate compensatory education drew as

much attention from the literature as did the programs themselves. As stated earlier, most studies were found to be based more on observation and opinion than on experimental study of programmatic factors that were related to improving the probabilities of survival in college. The ethical and scientific reasons for this void were present in the literature. None of the programs analyzed employed the active intervention of an experimenter who administered a treatment (program, project, or component) to subjects selected randomly with a group from whom the treatment was withheld or an alternative treatment given.

The problem encountered in the evaluation of programs where random selection of program subjects and random assignment to control and experimental groups was determined by some researchers to be scientifically difficult because of numerous variables one must consider in identifying the "high risk" student(s). The major ethical criticism against randomization was found to be in the use of students. Some critics (Mulka and Sheun, 1974) feel that the establishment of experimental and control groups by random inclusion of some, and the exclusion of others may be "random injustice to the needy student randomly excluded." The authors concluded that to place a low-achiever student in an institution of higher education and allow him/her to follow the same path as students with academic skills and motivation, is not warranted for the purpose of scientific experimentation. It is ethically questionable.

Granting, nevertheless, the validity of the experimental model as appropriate to evaluation research, it does not appear to be the most appropriate for evaluating compensatory collegiate programs. John Evans expressed the view that "ideal evaluation researches following faithfully the experimental models are probably too difficult both to design and

carry through" (Peter Rossi, 1972, p. 36). Evans further stated that "Despite the patent dangers of ex post facto designs, they still provide some information and in the setting of social policy it is better to have some information of some probability than to make decisions based on estimates made up of whole cloth" (Rossi, 1972, p. 36).

Petter Rossi (1971) and others, therefore, consider "soft" techniques almost as good as subtle and precise ones, if massive effects are expected or desired (p. 280). If a treatment, they contend, shows no effects with a soft method, then it is highly unlikely that a very precise evaluation will show more than very slight effects. Moreover, if students in compensatory programs and practices show no gain in learning basic skills and competencies, and are not more highly motivated to persist, compared with those who do not participate (initial learning and motivation held constant), then it is not likely that a controlled experiment with students randomly assigned to experimental and control groups is going to reflect dramatic differences either. Consequently, it is worthwhile to consider quasi-experimental and correlational designs as the first stage in evaluation research, discarding treatments that show no effects and retaining more effective ones to be tested with more powerful controlled designs.

Summary

This review of the literature seems to indicate that the state of research on compensatory programs in higher education is in the infancy stage. While there are numerous reports and some studies of compensatory higher education, the effectiveness and efficiency of compensatory education and the kind of program(s) needed cannot be specified on the basis of existing empirical evidence. One of the most urgent tasks of

those concerned with higher education for the low-income underachiever and underprepared college student is to establish, on the basis of experimentation and additional research, the "how," "when," and "how much" of compensatory education.

The data which does exist is based more on studies of students drawn, not from the lower segments of the disadvantaged, but from the upper parts, as measured either in class terms or in terms of educational capabilities. This suggests that compensatory education, as a mass tool, may be even more limited in its effectiveness and efficiency than studies now available suggest. However, the barriers to higher education, even for these students, are real posing problems that are as difficult to solve as is the critical need for solutions.

The literature reviewed and the studies analyzed in this chapter emphasize that the lack of basic skills is still the greatest barrier to universal higher education despite "open door" policies, financial aid, and compensatory and supportive services for low-income underachievers. From this review, it seems clear that the inadequacy of pre-college education still prevents many students from developing to their full potential by limiting their educational experiences. Therefore, in the opinion of this researcher, more research is needed to determine if efforts now in existence to provide low-income underachievers with skill to survive in college are meeting with success as measured by academic achievement and persistence. Thus, this review of the literature is important to the current inquiry both as a theoretical construct and as an aspect of methodology.

CHAPTER III

Design and Procedures

The major objective of this study was to answer the question: do students who have been identified as low-income underachievers in high school and who have been recruited into an Upward Bound Program perform better academically in college when compared to low-income underachievers from the same target area high schools who were not recruited into an Upward Bound Program but who entered Oakland University through the Equal Opportunity Program for low-income underachieving high school graduates. The setting, source of data, selection of subjects, and the procedures used in the collection of the data are described in this chapter.

Setting

Oakland University is a state-supported institution located in Rochester, Michigan. It was founded and governed by Michigan State University in 1957, during the Sputnik era, and received independent status from Michigan State University in 1970. It has a governing board (Board of Trustees) appointed by the Governor of the State of Michigan and the institution serves a population of approximately 10,000 students, both undergraduate and graduate. Oakland University is principally a commuter institution with more than 80% of its students living in the Metropolitan Detroit area. Its three Schools of Engineering, Education, and Economic and Management and College of Arts and Sciences offer both the bachelor and master's degrees in regular day programs and in an evening division. The School of Engineering offers the Ph.D., and other programs have plans for offering the doctorate.

In addition to the aforementioned schools and colleges, Oakland

University has sponsored an educational program for pre-college low-income underachieving students since 1966 and an Equal Opportunity Program for low-income underachievers at the college level since 1967. Oakland University's Upward Bound Program has drawn from the large pool of educationally and economically disadvantaged students who reside in the cities and communities of Pontiac, Hazel Park, and Oak Park. These communities are the principal reservoirs of students disadvantaged by reasons of educational preparation, environmental circumstances, and economic conditions, and are the homes of Oakland County's largest populations of Black and Latino families (Census Report, 1970). The socio-economic conditions of the bi-ethnic minority from these communities are in sharp contrast to the affluent minority from other areas in the county and have produced the need for a concentrated program to provide for the educational upward mobility of a large number of its citizens. Detroit, just 30 miles south of Oakland University, comprises another large pool of students from which the university draws for both its pre-college and college programs. Here live the urban American Indian and large numbers of Latinos and Blacks, who comprise one-half of the city's population.

Oakland University has increased its Black student population from about .3% in 1966 to more than 11% in 1976. Its Latino population has grown less rapidly, but has increased from nothing in 1966 to about 1% in 1976. Both Black and Latino faculty and administrators have been brought to the university to assist in Oakland's urban thrust. Policies are uniformly administered for the tri-ethnic minority and the non-minority alike. Curriculum changes have been made to provide a more enriched offering for the "new students" as well as the traditional students; skill development courses to meet the academic needs of students are diagnosed

upon entry; and socio-cultural course offerings are rich, but stop short of ethnic studies. Oakland's movement toward service to the urban poor, the tri-ethnic minority, the educationally disadvantaged, and the economically insecure is interwoven into the very fabric of the institution and the program of instruction is implemented by academically competent, socially aware professors with increasing sensitivity to the needs of a tri-ethnic population.

Source of Data

This study included only first-time, full-time students admitted to Oakland University in 1973 through its "Opportunity for Disadvantaged Students Program." Each student admitted through this program met two criteria.

1. The student must have demonstrated financial need as determined by the Economic Guidelines of the United States Office of Education.
2. The student must have been an underachiever in high school and not "normally admissable" to Oakland University.

To insure that there existed no great differences between the Upward Bound and non-Upward Bound participants with respect to their being low-income underachievers, the investigator used as the recruitment pool only students admitted to the university through the Opportunity for Disadvantaged Students Program. This program is governed by the same strict United States Office of Education regulations as the Upward Bound Program. It was established in 1970 by Oakland University Senate legislation to provide admission, financial assistance and academic support for low-income underachieving high school graduates desirous of entering Oakland University.

The philosophy behind Oakland's program for the academically disadvantaged is simple: "admit normally inadmissible disadvantaged students and provide the necessary support for success". The operating philosophy is

based on the premise that any support program must: 1) include particularized attention in a manner designed to enhance the dignity and worth of the student, 2) insure the survival and success of the student in the university community through adequate academic and financial assistance (the university did not design a special curriculum for these students), 3) be sensitive to the needs of non-traditional students in a community not totally aware of their problems, 4) aid the participants in becoming integrated into the university community without any signs of project identification, and 5) give the necessary assistance so that participants could avoid the obstacles in the system which might tend to minimize their chances for success.

A description of the student sought and the university's commitment to that student can best be described by quoting from the admissions policy. The University Senate approved this admission legislation on May 13, 1970, struck from its records the last vestige of project identification, and built all supportive programs into the very fabric of the university. That part of the legislation dealing with the non-traditional student was as follows:

All efforts shall be made to insure that at least 15 percent of all new freshmen students are Black and to insure an increased admission of members of other minority group traditionally disadvantaged.

Opportunities for disadvantaged students will be insured by establishment of the following guidelines and programs:

Students admitted with a GPA less than 2.50 may be required to attend a summer orientation program.

Students admitted with a GPA less than 2.50 will normally be assigned to the Department of Special Programs, Office of Student Services for a particularized academic support program.

The program, through the nature of its design, extends to all admitted first semester freshmen with high school GPA's below 2.50 an invitation

to come to the university for eight weeks of study in two credit-producing courses. In order to maximize the student's chances for success, the program is staffed with one professional counselor for every forty students participating.

In addition to counselors, one highly trained teaching assistant is employed for every ten students enrolled in a class. More than 75% of the minority students enter the university through this program and come principally from Detroit (Wayne County) and Pontiac (Oakland County). These two counties are also the principal counties from which tenth graders are recruited for the Upward Bound Programs of Oakland University, Wayne State University and Cranbrook High School.

Selection of Students
and
Instruments Used

The subjects in this investigation consisted of 120 students who were selected from a population of 234 students admitted to Oakland University through its Opportunity for Disadvantaged Students Program in 1973. The process used to identify the former Upward Bound students was to review each student's Information Intake Data Sheet. This data sheet is required by the United States Office of Education and must be completed by each student participating in the Opportunity for Disadvantaged Students Program because 90% of the funding for the program is provided by the United States Office of Education.

From the information provided through the above process, 73 former Upward Bound students and 118 non-Upward Bound students were identified as low-income underachievers who had graduated from the same target area high schools in June of 1973. To insure that the two groups were comparable with respect to age, high school quantile rank, high school GPA, and socio-

economic status, a further evaluation of each student's permanent folder was conducted. The College Qualifying Questionnaire, financial aid award letter and high school transcript was used for this evaluation. From the CQQ, which is a self-reporting non-standardized test completed by each student upon entering the program, the investigator was further able to substantiate the comparability of the subjects with respect to:

1. age, sex and ethnic group;
2. availability of reading materials in the home;
3. parental schooling;
4. parental educational aspiration for student as perceived by student;
5. educational aspiration of student;
6. student's perception of his personal worth;
7. honors and awards received while in high school.

These characteristics are believed to have some relationship to access, achievement and persistence in higher education (Crossland, 1971).

An evaluation of transcripts provided information regarding high school GPA, class rank and age (see Table I). The financial aid award letter was evaluated to insure that all subjects were financial aid recipients and eligible to receive part of their aid from each of the four programs sponsored by the federal government: Basic Educational Opportunity Grant, Supplemental Educational Opportunity Grant, National Direct Student Loan, and the College Work-Study. It was important that the investigator note the type of financial aid received, because not all aid is governed by the same strict guidelines as the aforementioned four programs. In the language of the United States Office of Education, to be eligible for any of the above four programs "a student must be in attendance at least half-time in an institution and must demonstrate need"

Table I
Comparison of Students According
to Mean Age, High School Rank,
and High School GPA

Characteristics	Experimental Group		Control Group	
	N.60	Mean	N.60	Mean
Age		17.6 months		17.8 months
High School rank: Bottom half		100%		100%
High School GPA		2.23		2.27

Three of these programs, the Supplemental Educational Opportunity Grant (SEOG), the College Work-Study (CWSP) and the National Direct Student Loan (NDSL) program are referred to as the "campus-based" programs since they are administered by the postsecondary schools which participate in them. However, all four programs are based on the financial strength of a student and his or her family's ability to pay for postsecondary education.

The SEOG is designed for students who demonstrate "exceptional financial need". "Exceptional financial need" means that a student's expected family contribution may not exceed fifty percent of his or her cost of education at the institution in which the student is enrolled or accepted for enrollment. This "need" is determined by each institution, using a systematic and consistent need analysis system approved by the Office of Education. The minimum SEOG which a student may receive is \$200.00 per academic year. The maximum SEOG a student may receive is \$1500.00 or one-half of the total amount of student financial aid provided by the institution, whichever is the lesser. SEOG's must be "matched" by other sources of aid such as Basic Grants, NDSL, CWSP, BIA Grants, State or private scholarships. Therefore, students who receive SEOG assistance

can be assured that they will also receive at least an equal amount of aid from other sources.

The CWSP is another Office of Education sponsored student aid program. This program provides employment opportunities for students enrolled in participating institutions on at least a one-time basis to assist them in earning the funds necessary to meet the costs of post-secondary education. The CWSP is restricted to those students with the "greatest need," after considering all grant aid the students are receiving. As is the case of the SEOG Program, "greatest need" is determined by each institution, using a need analysis system approved by the Office of Education.

The NDSL Program is one of the loan programs sponsored by the Office of Education. In order to receive NDSL assistance, students must be enrolled in participating institutions on at least a half-time basis and demonstrate financial need. Again, the determination of financial need is by the institution using a need analysis system approved by the Office of Education.

The BEOG Program, unlike the other three, is a source of Federal student financial aid which was available to eligible students for the first time during the 1973-74 academic year. The purpose of the Basic Grant Program is to provide eligible students with a "floor" of financial aid to help defray the costs of postsecondary education. Student eligibility is primarily based on financial need determined on the basis of a formula, developed by the Office of Education and reviewed by Congress annually, and which is applied uniformly to all applicants. The result of applying this formula, called the student's eligibility index, is used solely for purposes of determining the amount of a

student's Basic Grant award.

After a thorough evaluation of the information contained in each student's folder, which substantiated the comparison of students with respect to characteristics which are known to effect access, academic performance, and persistence in higher education, 60 former Upward Bound students were determined to be eligible to participate in this study. The remaining 13 did not qualify because they were found not to be comparable with respect to all characteristics and did not graduate into the bridge component of the Upward Bound program before completing high school. From the 118 students who graduated from the same target area high schools as the former Upward Bound students and were comparable with respect to age, high school quartile rank, high school grade point averages, and socioeconomic status, the investigator systematically selected 60 students to serve as the Control group for this study.

Subjects

The subjects in this investigation consisted of 120 students who were admitted to Oakland University through its Opportunity for Disadvantaged Students Program in 1973. The Experimental Groups consisted of 60 students who had participated in a pre-college program designed to provide low-income students, who were potentially successful, but inadequately trained, with skills and motivation to succeed in education beyond high school. The Control Group consisted of 60 students who graduated from the same target area high schools as the Experimental Group, but who did not participate in the pre-college program while in high school. Both groups of students were low-income underachieving high school graduates who qualified for the Opportunity of Disadvantaged Students Program and received funds for their college expense to the

extent demonstrated by financial need. Although low-income under-achievers, they were fully matriculating freshmen and subject to the personnel policies governing unconditionally admitted students.

The Experimental Group consisted of 26 black females, 22 black males, 3 white females, 4 white males, and 5 Mexican-American females (see Table 2 for distribution of subjects by sex and ethnic groups). The mean high school grade point average for the group was 2.23 with a range from 2.15 to 2.52. The mean chronological age of the group was 17 years, 6 months. The Control Group consisted of 24 black females, 30 black males, one white male, one white female, two Mexican-American females, and two Mexican-American males. The mean high school grade point average was 2.27 with a range from 2.20 to 2.55. The mean chronological age of the group was 17 years, 8 months.

Table 2
Distribution of Subjects
by
Sex and Ethnic Group

Ethnic Group	Experimental Group	Control Group	Total
Female			
N=61			
Black	26	24	50
Caucasian	3	1	4
Mexican-American	5	2	7
Male			
N=59			
Black	22	30	52
Caucasian	4	1	5
Mexican-American	0	2	2
Blacks.			102
Caucasian			9
Mexican-American.			9
Total			120

The Personal Data sheets of the Experimental Group revealed that: (1) 82% of the students lived with both parents; (2) 89% were from homes where only one parent had steady employment; (3) the average family size was 6.7 persons; (4) the average family income was less than \$6,500. a year; (5) 63% of the parents had not completed high school; (6) 79% were first of their family to enter college. (See Table 3 for a demographic classification of subjects.)

The Personal Data sheets of the Control Group revealed the following: (1) 86% lived with both parents; (2) 85% were from homes where only one parent had steady employment; (3) the average family size was 6.1 persons; (4) the average family income was less than \$6,000. a year; (5) 67% of the parents had not completed high school; (6) 76% were the first of their family to enter college. (See Table 3 for a demographic classification of subjects.)

Table 3
Demographic Classification of Subjects

Items	Experimental Group	Control Group	Total
1. Live with both parents	49	52	101
2. Only one parent works	53	51	104
3. Income less than \$6,500.	45	37	82
4. Number of parents completed high school	38	40	78
5. Number of sisters or brothers who entered postsecondary ed.	12	14	26

Collection of Data

The data for this study was collected by requesting from the Office of the Registrar an official transcript for each of the 120 students who

served as subjects for the study. The transcripts were evaluated for the determination of work completed beginning with the summer session of 1973 through the fall of 1975. The investigator felt that to measure persistence it was necessary to include more than one academic year to insure that ability was being evaluated and not the "survival effect" of the Upward Bound Bridge Program. The transcripts were divided into four groups and assigned a label as to major: Hard Sciences (biology, physical science, mathematics, and nursing), Soft Sciences and Humanities (social science, history, art, and music), Professional Education (business and engineering), and Technical (medical technology). Each student's cumulative grade point average, total number of credits earned, and number of "N" grades received were recorded by major under each group.

Students whose transcripts did not carry a listing of courses for all five grading periods were placed on a list for the determination of their official status. If it was determined that a student was no longer officially registered with the university as a matriculating student, an evaluation of his or her academic status was determined through the Office of Readmission and Records. An attempt was made through the use of a questionnaire, personal interview, and telephone service to determine the present status and reasons for leaving the university and the program. Personal interviews were held with all former Upward Bound students who were in attendance at Oakland University. This procedure was used to obtain information from subjects that could not be obtained from the Personal Data sheet or the transcripts. Moreover, because factors other than motivation, grade point averages, and retention rates, can determine whether a student will succeed or

fail in college, the investigator used the personal interview and a questionnaire further to determine the effects the Upward Bound program had on each of the subjects and to determine what aspects of the program had been the most effective in helping the students deal with the college curriculum. In addition to the instruments listed above, anecdotal records kept by counselors were used to evaluate comments that students had made about the program. For former Upward Bound students, who had transferred to other universities, attempts were made to determine their present academic status and degree of progress.

Type of Research

The problem of this study was to determine if low-income underachievers who are recruited into a pre-college program and given special help to improve their motivation and academic skills, perform significantly better than do low-income underachievers not recruited into the program. The quasi-experimental design was selected as the appropriate research procedure for determining the differences between the Experimental and the Control Groups with respect to academic achievement and persistence in higher education.

CHAPTER IV

Analysis of Data

The focus of this investigation concerned the effects of a pre-college program (Upward Bound) on the persistence and educational achievement of low-income underachieving students admitted to Oakland University, Rochester, Michigan. Participating students and non-participating students were divided into experimental and control groups and then labeled according to college majors: Hard Sciences, Soft Sciences and Humanities, Professional Education, and Technical Education. For each group, hypotheses were formulated pertaining to differences with respect to educational achievement for students who participated in the pre-college program (Experimental Group) and students who did not participate in the pre-college program (Control Group).

In Chapter IV, these hypotheses are restated by majors for each group and pertinent results are reported. Additional findings related to the research hypotheses are also reported. The t-test and t-test for paired data were employed as significant tests because they related to the hypotheses and the topic under investigation. The t-test for paired data was used because the subjects in this study were paired over six specific semesters, excluding any work that may have been done at another university, or during spring and summer terms at Oakland University (except the summer of 1973). The data was collected by computing arithmetic means of both groups for each semester and then an overall mean for each of the six semesters. The statistical test was then computed to determine if there existed a significant difference between the Experimental Group and the Control Group. The .05 level of significance has been adopted for statistical decisions in this investigation, the level

commonly chosen by research workers in the behavioral sciences, Fred N. Kerlinger, (1965); Allen L. Edwards, (1957); Quinn McNemar, (1962).

Hypothesized Findings

"Hard Science" Majors

Hypothesis 1

The mean grade point average accrued for low-income underachieving students who participated in the pre-college program will be greater than the grade point average for low-income underachieving students who did not participate in the pre-college program.

Hypothesis 1 was rejected on the basis of the evidence presented in Table 4. This table reveals a t-ratio for Experimental and Control Groups who served as the study population. The mean difference was not statistically significant.

Table 4
Comparison of Mean GPA for Pre-College Program
Participants and Non-Pre-College Program Participants
with Majors in the Hard Sciences

Group	n	$\bar{x}$	$\bar{d}$	S.D.	df	t-ratio
Experimental	6	2.637	.116	.150	5	1.91
Control	6	2.521			5	

Hypothesis 2

The mean credits accrued for low-income underachieving students who participated in the pre-college program will be greater than those for low-income underachieving students not participating.

Hypothesis 2 for hard science majors was not rejected on the evidence presented in Table 5. This table reveals a t-ratio for the Experimental and Control Groups. The mean difference was statistically significant at the .01 level.

Table 5
Comparison of Mean Credits Accrued for Pre-College
Program Participants and Non-Pre-College Program Participants
with Majors in the Hard Sciences

Group	n	$\bar{x}$	$\bar{d}$	S.D.	df	t-ratio
Experimental	6	11.83	1.37	.835	5	4.02**
Control	6	10.46			5	

**Significant at the .01 level

Hypothesis 3

The mean number of "N" grades received by non-program participants will be greater than the number received by program participants.

Hypothesis 3 was rejected on the basis of the evidence presented in Table 6. The mean difference of -0.07 was not statistically significant.

Table 6
Comparison of Mean "N" Grades Received for
Pre-College Program Participants and Non-Pre-College Program
Participants with Majors in the Hard Sciences

Group	n	$\bar{x}$	$\bar{d}$	S.D.	df	t-ratio
Experimental	6	.705			5	
Control	6	-.775	-0.07	.102	5	-1.66

"Soft Science" Majors

Hypothesis 4

The mean grade point average accrued for low-income underachieving students who participated in the pre-college program will be greater than the grade point average for low-income underachieving students who did not participate in the pre-college program.

Hypothesis 4 was not rejected on the basis of the evidence presented in Table 7. This table reveals a t-ratio for Experimental and Control

Groups in the study population. The mean difference was statistically significant at the .01 level.

Table 7
Comparison of Mean GPA's for Pre-College Program
Participants and Non-Pre-College Program Participants
with Majors in the Soft Sciences

Group	n	$\bar{x}$	$\bar{d}$	S.D.	df	t-ratio
Experimental	6	2.42	.24	.259	5	2.17**
Control	6	2.18			5	

**Significant at the .01 level

Hypothesis 5

The mean credits accrued for low-income underachieving students who participated in the pre-college program will be greater than those for low income underachieving students not participating.

Hypothesis 5 for soft science majors was not rejected on the basis of evidence presented in Table 8. The evidence was statistically significant at the .005 level.

Table 8
Comparison of Mean Credits Accrued for Pre-College
Program Participants and Non-Pre-College Program Participants
with Majors in the Soft Sciences

Group	n	$\bar{x}$	$\bar{d}$	S.D.	df	t-ratio
Experimental	6	11.55	2.59	1.15	5	5.56***
Control	6	8.96			5	

***Significant at the .005 level

Hypothesis 6

The mean number of "N" grades received by non-program participants will be greater than the number received by program participants.

Hypothesis 6 was not rejected on the basis of the evidence presented in Table 9 which gives a t-ratio for the Experimental and Control Groups in the study population. The mean difference was statistically significant at the .005 level.

Table 9
Comparison of Mean "N" Grades Received for
Pre-College Program Participants and Non-Pre-College Program
Participants with Majors in the Soft Sciences

Group	n	$\bar{x}$	$\bar{d}$	S.D.	df	t-ratio
Experimental	6	.523		2.20	5	
Control	6	1.038	-0.515		5	-5.74***

***Significant at the .005 level

Professional Majors

Hypothesis 7

The mean grade point average accrued for low-income underachieving students who participated in the pre-college program will be greater than the grade point average for low-income underachieving students who did not participate in the pre-college program.

Hypothesis 7 was not rejected on the basis of the evidence presented in Table 10 which clearly presents a statistically significant difference between the Experimental and Control Groups with respect to mean GPA. The mean difference was statistically significant at the .005 level.

Table 10
Comparison of Mean GPA for Pre-College Program
Participants and Non-Pre-College Program Participants
with Professional Majors

Group	n	$\bar{x}$	$\bar{d}$	S.D.	df	t-ratio
Experimental	6	2.83	.39	.181	5	5.34**
Control	6	2.44			5	

***Significant at the .005 level

Hypothesis 8

The mean credits accrued for low-income underachieving students who participated in the pre-college program will be greater than those for low-income underachieving students not participating.

Hypothesis 8 was not rejected on the findings presented by Table 11 which compares professional majors who participated in the pre-college program with students with professional majors who did not participate in the pre-college program. The mean difference was statistically significant at the .05 level.

Table 11
Comparison of Mean Credits Accrued for Pre-College
Program Participants and Non-Pre-College Program Participants
with Professional Majors

Group	n	$\bar{x}$	$\bar{d}$	S.D.	df	t-ratio
Experimental	6	13.08	1.40	.868	5	2.94*
Control	6	11.76			5	

*Significant at the .05 level

Hypothesis 9

The mean number of "N" grades received by non-program participants will be greater than the number received by program participants.

Hypothesis 9 was not rejected on the basis of findings presented by Table 12 which reveals a mean difference of $-.242$ determined to be statistically significant at the $.05$ level.

Table 12
Comparison of Mean "N" Grades Received for
Pre-College Program Participants and Non-Pre-College Program
Participants with Professional Majors

Group	n	$\bar{x}$	$\bar{d}$	S.D.	df	t-ratio
Experimental	6	.17		.279	5	
Control	6	0.46	-.242		5	-2.11*

*Significant at the $.05$ level

Comparison of Subjects
Regardless of Major(s)

Hypothesis 10

Pre-college program participants will earn higher GPA's, accrue more credits, and receive fewer "N" grades than non-pre-college participants, regardless of major(s).

Hypothesis 10 was not rejected on the basis of the evidence presented in Tables 13, 14, and 15, all of which show statistical significant results.

Table 13
Comparison of Mean GPA Received for
Pre-College Program Participants and Non-Pre-College
Program Participants Regardless of Major(s)

Group	n	$\bar{x}$	$\bar{d}$	S.D.	df	t-ratio
Experimental	6	2.53	.27	.146	5	4.536***
Control	6	2.26			5	

***Significant at the $.005$ level

Table 14
Comparison of Mean Credits Earned for
Pre-College Program Participants and Non-Pre-College
Program Participants Regardless of Major(s)

Group	n	$\bar{x}$	$\bar{d}$	S.D.	df	t-ratio
Experimental	6	11.63	2.02	.026	5	5.34***
Control	6	9.61			5	

***Significant at the .005 level

Table 15
Comparison of "N" Grades Received for
Pre-College Program Participants and Non-Pre-College
Program Participants Regardless of Major(s)

Group	n	$\bar{x}$	$\bar{d}$	S.D.	df	t-ratio
Experimental	6	.50			5	
Control	6	.91	-0.411	.14731	5	-6.81***

***Significant at the .005 level

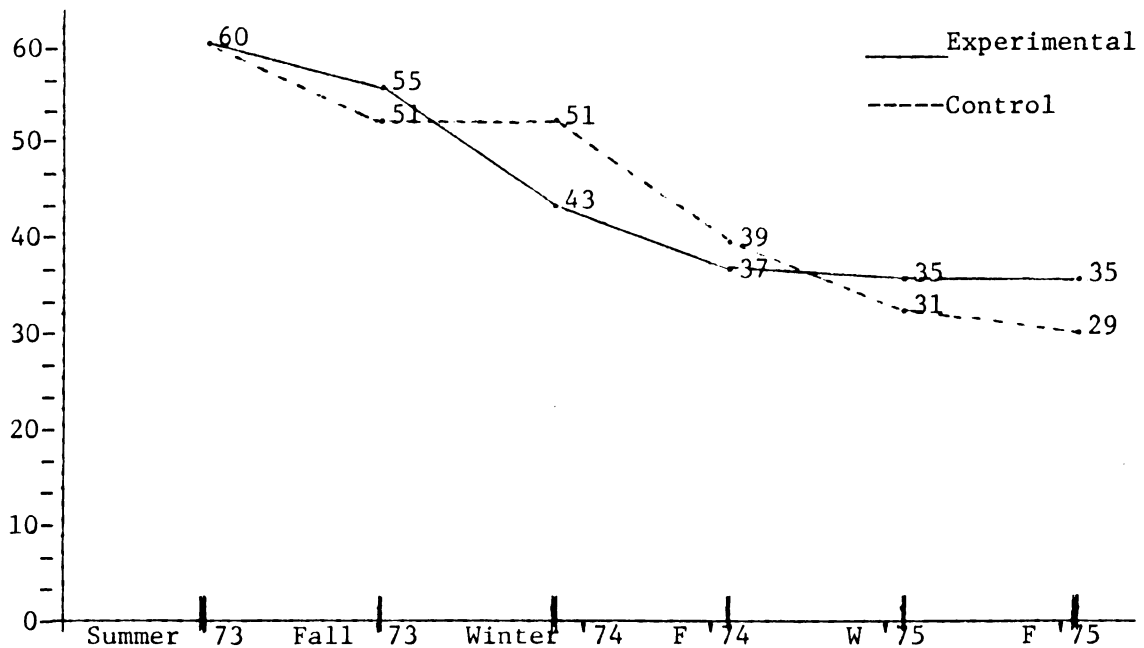
Hypothesis 11

Pre-college program participants will have a lower attrition rate than non-pre-college program participants who enter higher education at Oakland University.

Hypothesis 11 was rejected on the basis of the evidence presented in Figure 1. The results were numerically greater, but not statistically significant.

Figure 1 gives an illustrated view of attrition rates through the use of a line graph.

Figure 1
Comparison of Attrition Rates for Pre-College
Program Participants and Non-Pre-College Program Participants
Who Entered Higher Education at Oakland University



The Experimental Group has an attrition rate of 42% which is a loss of 25 students. Three of this number "Dropped Out in Good Standing" (DOGS), and six "Transferred in Good Standing" (TIGS). The Control Group has an attrition rate of 52% which is a loss of 31 students. Three of this number were DOGS and four were TIGS. These results support Hypothesis 11.

Additional Analysis of Data

This study was designed to determine if students who have been identified as low-income underachievers in high school and recruited into a pre-college program, designed to generate the skills and motivation for

success in post-secondary education, perform better academically in college than low-income underachievers not recruited into the program who entered college through an Equal Opportunity Program for Disadvantaged Youth. In an attempt to answer this question, testable research hypotheses were formulated, the results of which have been presented in this Chapter. Analysis of data gathered to test the research hypotheses revealed additional findings deemed relevant to the major purposes of the investigation. In the remainder of this Chapter, a hypothesis is stated and tested for each of six semesters. The results are reported as six alternate hypotheses, beginning with the summer session of 1973 and ending with the fall semester of 1975.

Measurement of Academic Performance
by Quality Points Earned

The mean number of quality points earned by pre-college program participants will be greater than the mean number of quality points earned by non-pre-college program participants, for each of the six semesters of college enrollment.

Table 16
Summer 1973
Comparison of Mean Quality Points Earned
By Pre-College Program Participants and Non-Pre-College
Program Participants

Group	n	Mean	df	t-ratio
Experimental	60	22.55	59	1.91
Control	60	19.67	59	

Alternate Hypothesis 1 was rejected on the basis of the evidence presented in Table 16. This table reveals t-ratios for Control and Experimental Groups for the summer session of 1973. It shows that the mean quality points earned for the Experimental Group was 22.55 as compared to the mean

quality points earned by the Control Group of 19.67. The difference was not statistically significant.

Table 17
Fall 1973
Comparison of Mean Quality Points Earned
By Pre-College Program Participants and Non-Pre-College
Program Participants

Group	n	Mean	df	t-ratio
Experimental	55	20.26	54	2.93**
Control	51	14.36	50	

**Significant at the .01 level

Alternate Hypothesis 2 was not rejected on the basis of the evidence presented in Table 17. It reveals that the mean quality points earned for the Experimental Group was 20.26 as compared to the mean quality points earned for the Control Group of 14.36. The difference was statistically significant.

Table 18
Winter 1974
Comparison of Mean Quality Points Earned
By Pre-College Program Participants and Non-Pre-College
Program Participants

Group	n	Mean	df	t-ratio
Experimental	43	29.21	42	3.09**
Control	51	21.26	50	

**Significant at the .01 level

Alternate Hypothesis 3 was not rejected on the basis of the evidence presented in Table 18. It shows that the mean quality points earned for the Experimental Group was greater (29.21) than the mean quality points (21.26) earned by the Control Group for the same semester.

Table 19
Fall 1974
Comparison of the Mean Quality Points Earned
By Pre-College Program Participants and Non-Pre-College
Program Participants

Group	n	Mean	df	t-ratio
Experimental	37	35.55	36	3.67**
Control	39	26.45	38	

**Significant at the .01 level

Alternate Hypothesis 4 was not rejected on the basis of the findings presented in Table 19. The mean quality points earned by the Experimental Group is statistically significant, as the t-ratio illustrates.

Table 20
Winter 1975
Comparison Of the Mean Quality Points Earned
By Pre-College Program Participants and Non-Pre-College
Program Participants

Group	n	Mean	df	t-ratio
Experimental	35	34.75	34	2.50**
Control	31	28.37	30	

**Significant at the .01 level

Alternate Hypothesis 5 was not rejected on the strength of the evidence presented in Table 20 (above) which shows that the Experimental Group achieved mean quality points at the 34.75 level while the Control Group achieved at the 28.37 level. The difference was statistically significant.

Table 21
Comparison of Mean Quality Points Earned
By Pre-College Program Participants and Non-Pre-College
Program Participants
Fall 1975

Group	n	Mean	df	t-ratio
Experimental	35	37.52	34	2.80**
Control	29	30.66	28	

**Significant at the .01 level

Alternate Hypothesis 6 was not rejected on the basis of the evidence presented in Table 21 (above). This evidence shows that the Experimental Group achieved quality points higher than the Control Group with means 37.52 and 30.66 respectively. The difference was statistically significant.

Summary

In this Chapter the results of the study have been presented as they pertain to research hypotheses and related questions about the effect of a pre-college program on the educational achievements of low-income underachieving high school graduates admitted to Oakland University through the Opportunities Program for Disadvantaged Students in 1973. To test the hypothesis that pre-college participants would perform significantly better than non-pre-college participants, a group of low-income underachieving students admitted under the above program who did not participate in the pre-college program, designed to generate the academic skills and motivation needed for success in higher education, was used as the Control Group. This Chapter has analyzed data which has been generated from statistical tests of grade point averages, credits earned, "N" grades received, quality points, and retention rates, all

commonly assumed to be measures of success in college.

The findings presented in this Chapter seem to indicate that the Experimental Group is performing significantly and statistically better than the Control Group, with respect to credits earned and "N" grades received, and is doing a better job with respect to GPA and retention rates. When using quality points as the criteria to measure academic performance, the Experimental Group performed significantly and statistically better in five of the six semesters of the study population enrollment. Only during the summer semester did the data reveal that the difference was not statistically significant at one of the accepted levels of educational research. There will be an additional summary and a discussion of the data in Chapter V.

CHAPTER V

Summary, Discussions, Conclusions, and Recommendations

Summary

The major objective of this study was to determine if students who have been identified as low-income underachievers in high school and recruited into a pre-college program, designed to generate the academic skills and motivation needed for success in higher education, perform better academically in college when compared to low-income underachievers from the same target area high schools who were not recruited into the pre-college program, but who entered Oakland University through the Equal Opportunity Program for low-income underachieving high school graduates. Specifically, the study examined the following sub-questions:

1. Do former Upward Bound project college students perform better academically than non-Upward Bound, low-income under-achieving college students?
2. Is there a difference in the attrition rate of Upward Bound project students and non-Upward Bound students who enter Oakland University?

Thus, the study was designed to determine if there existed a significant difference between Upward Bound and non-Upward Bound students with respect to academic achievement and persistence in higher education. In an attempt to answer this question, the study was designed to include only first-time, full-time students admitted to Oakland University in 1973 through its Opportunity for Disadvantaged Students Program. Each student admitted through this program met two criteria:

1. The student must have demonstrated financial need as determined by the Economic Guidelines of the United States Office of Education.

2. The student must have been an underachiever in high school and not "normally admissable" to Oakland University.

To insure that there existed no great differences between the pre-college subjects and non-pre-college subjects, with respect to their being low-income underachievers, the investigator used as the population, only students admitted to the University by means of the Opportunity for Disadvantaged Students Program. This program is governed by the same strict United States Office of Education regulations as the pre-college program.

The study took as its criteria of effectiveness: educational achievement, persistence, and attrition rate. Achievement was measured by the number of accumulated credit hours and the grade point average earned. Persistence was measured by the number of semesters in college, and attrition was measured by the number of students who dropped out of college.

In order to test the hypotheses formulated for this study, the subjects were divided according to their chosen majors to insure, for example, that students majoring in engineering were not compared with students majoring in history. Four areas were identified as the principal areas of selected majors of the 120 students who served as the study population for the investigation. For each of the four academic majors, hypotheses were formulated to be tested. Since no students from the Control Group selected medical technology as a major, a hypothesis was not formulated and tested for that major.

Discussions

The findings from this study clearly indicate that low-income underachieving high school graduates who are granted the opportunity to

participate in a pre-college program, prior to entering Oakland University, perform better academically than low-income underachievers who have not participated in such a program. In this particular study, the Experimental Group performed better than the Control Group in each of the six semesters tested, when tested with no regards to majors. Similar results were found when they were tested according to majors. Only during the summer of 1973 did the Control Group perform better than the Experimental Group on any of the variables (GPA) used to measure academic performance and persistence in higher education. The results from this study indicate further that the Experimental Group is less likely to receive a high percentage of "N" grades in any one given semester. These results were overwhelmingly supported when the two groups were compared with respect to quality points earned. The difference in the quality points earned was found to be highly statistically significant during five of the six semesters tested. Further analysis of the data provide information about retention rates. On this subject, it was determined that while not statistically significant, pre-college program participants are more likely to remain in post-secondary education, even though they may not remain at the institution where they initiated their enrollment (see Table 4-A). Further analysis of retention rates reveal that fewer members of the Experimental Group left post-secondary education for academic reasons when compared with the Control Group. Of the 60 students who served as subjects for the Experimental Group, only 11 left Oakland University for academic reasons. The remaining 14 either dropped out in good standing or transferred to another institution. Findings regarding the Control Group display a more dismal picture. Eight students were dismissed for poor academic

performance, fifteen students dropped out on academic probation, and the remaining eight students either left for personal reasons or transferred in good standing. Thus it is clear from the data presented in Chapter IV that low-income underachieving pre-college program participants are less likely to drop out of post-secondary education for poor academic performance when compared with low-income underachievers who are not pre-college program participants.

The results from this study strengthen the investigator's belief that early intervention, which is the Upward Bound concept, through counseling and innovative and creative teaching methods, is a more productive method of preparing underachievers for college than placing them in a remedial program that simply repeats high school materials already taught and not successfully passed. Students who have been conditioned, by years of English, to feel inadequate in the language are unlikely to respond differently when the same course is taught substantially the same way, one more time. The findings of this study support the concept that early intervention, with different techniques and new approaches, are much more productive, when preparing low-income underachievers for college, than repeating old course materials the same way, one more time. Students in this study who had the good fortune of participating in the pre-college program experienced a different approach to teaching and learning. The non-program participants were put through the same kinds of experiences they had while in high school. The latter type of compensatory programs raise the question: Why should students be expected to gain in one or two semesters what they failed to achieve in 12 years of compulsory education? Thus, the decision to follow an academic

curriculum or a general curriculum while in high school has far reaching consequences and should not be taken lightly. Non-participating low-income underachievers who are not provided the proper assistance are more likely to select a general curriculum, although they are desirous of entering an academic post-secondary institution. Moreover, this study indicates that low-income underachievers show a tendency to avoid courses that require a strong math background. This lack of preparation in the early years of a student's educational career and the implications from this study lead the investigator to believe that the greatest single barrier of equal access to higher education for low-income underachievers is a lack of basic skills. The investigator does not believe, particularly since the implementation of the Higher Education Act of 1965 and its subsequent amendments, that financial aid is the number one barrier. The lack of academic competence is the number one barrier. The inadequacy of pre-college education is the barrier which prevents many students from developing their full potential and it also limits their educational experiences.

Conclusions

Within the limitations of this study, and on the basis of the statistical analysis employed, the following conclusions are based upon the data collected and reported in Chapter IV:

Grade Point Averages Earned

Low-income underachievers who participated in the pre-college program designed to generate the skills and motivation needed for success in college, earned higher grade point averages during five of the six semesters of their enrollment when compared to low-income underachievers who did not participate in the pre-college program.

Credits Accrued

Low-income underachievers who participated in the pre-college program designed to generate the skills and motivation needed for success in college, earned more credits during the six semesters of their enrollment when compared to low-income underachievers who did not participate in the pre-college program.

"N" Grades Received

Low-income underachievers who participated in the pre-college program designed to generate the skills and motivation needed for success in college, earned fewer "N" grades during the six semesters of their enrollment when compared to low-income underachievers who did not participate in the pre-college program.

Attrition

Low-income underachievers who participated in the pre-college program are less likely to leave college for poor academic performance when compared to low-income underachievers who have not participated in such a program.

Quality Points

Low-income underachievers who participated in a pre-college program are more likely to earn higher quality points than non-pre-college program participants.

Total Academic Performance

Low-income underachievers who participated in a pre-college program and entered Oakland University in the summer of 1973 through the Opportunity for Disadvantaged Students Program, achieved more credits, higher grade point averages, and fewer "N" grades than non-pre-college program participants during the six semesters studied by this

investigation.

Recommendations

Considering the findings, limitations, discussions, and conclusions of this study, the following recommendations are presented.

1. That colleges and universities work more closely with secondary institutions in identifying and developing programs for low-income underachieving students with aspiration and potential for post-secondary education
2. That the Upward Bound concept be extended so that more low-income underachieving students may benefit from the concept
3. That the guidelines of Upward Bound be changed to provide for early intervention during junior high school in order to counteract tracking practices and to achieve the goal of equalizing choice
4. That colleges and universities furnish technical assistance for the development of training programs for staff personnel engaged in assisting the low-income underachievers
5. That colleges and universities develop support packages, especially in the "Hard" and "Professional Sciences," thereby offsetting the inadequate preparation and fear (of selecting majors in Biology, Chemistry, Physics, and Mathematics) that low-income underachievers demonstrate
6. That greater emphasis be placed on developing skills in communication, mathematics, and study techniques while the students are still in high school.

The investigator feels that the above six recommendations, if implemented, will broaden the pathways and enhance persistence of low-income underachievers as they experience post-secondary education. The responsibility for the implementation of these recommendations must become a part of the daily work load of all persons concerned with equal access.

Implication for Further Research

The findings of this study suggest further research, and accordingly,

it is recommended that:

1. The study be replicated with:
 - A. A non-urban population of subjects
 - B. Larger sample size
 - C. Standardized test data to help support degrees of underachievement
 - D. A larger number of low-income underachievers of ethnic groups other than Blacks
2. A study including longitudinal data be conducted, including both low-income underachievers and students eligible for college admittance unconditionally
3. A study be conducted which compares regular entering college freshmen with low-income underachievers

APPENDIX A

Appendix A

Table 1-A (Hard Sciences Majors)

Table 1-A gives a comparison of the grade point averages, credits earned, "N" grades received, and number of "N" credits for both the Experimental and Control Groups. On all variables tested, except for the grade point average earned in the summer of 1973, the Experimental Group performed better than the Control Group.

Table 2-A (Soft Sciences and Humanities Majors)

Table 2-A gives a comparison of the grade point averages, credits earned, "N" grades received, and number of "N" credits for both the Experimental and Control Groups. On all variables tested, the Experimental Group performed better than the Control Group.

Table 3-A (Professional Education Majors)

Table 3-A gives a comparison of the grade point averages, credits earned, "N" grades received, and number of "N" credits for both the Experimental and Control Groups. On all variables tested, the Experimental Group performed better than the Control Group.

Table 4-A (Retention Table)

Table 4-A shows that the Experimental Group maintained a retention rate of 58% as compared to 48% for the Control Group. It also shows a dismissal percentage of .08% for the Experimental Group, compared to 26% for the Control Group.

Table 1-A

HARD SCIENCES MAJORS

A Comparison of G.P.A.'s, credits, "N" grades, and number of "N" credits by Semesters of Experimental and Control Groups

Experimental Group

	Summer '73	Fall '73	Winter '74	Fall '74	Winter '75	Fall '75	Mean
Number of Students	12	12	8	7	6	6	8.50
Grade Point Average	3.14	2.64	2.58	2.45	2.40	2.58	2.63
Credits	7.33	7.33	10.88	15.42	15.00	15.00	11.83
"N" Grades	.16	1.67	1.00	.57	.50	.33	.705
"N" Credits	.66	4.66	3.25	2.00	1.00	1.33	2.15

74

Control Group

	Summer '73	Fall '73	Winter '74	Fall '74	Winter '75	Fall '75	Mean
Number of Students	7	7	7	5	5	5	6
Grade Point Average	3.24	2.33	2.32	2.43	2.38	2.41	2.52
Credits	6.85	6.28	10.00	12.40	13.20	14.00	10.46
"N" Grades	.29	1.42	1.14	.80	.60	.40	.775
"N" Credits	1.14	5.71	4.30	2.80	2.00	1.20	2.85

Table 2-A

SOFT SCIENCES AND HUMANITIES MAJORS

A Comparison of G.P.A.'s, credits, "N" grades, and number of "N" credits by Semesters of Experimental and Control Groups

Experimental Group

	Summer '73	Fall '73	Winter '74	Fall '74	Winter '75	Fall '75	Mean
Number of Students	33	33	28	25	24	24	27.80
Grade Point Average	2.80	2.34	2.30	2.45	2.22	2.30	2.42
Credits	6.90	7.64	11.82	13.32	14.13	15.46	11.55
"N" Grades	.27	1.09	.68	.52	.33	.25	.52
"N" Credits	1.10	4.36	2.43	1.76	1.25	.92	1.97

Control Group

	Summer '73	Fall '73	Winter '74	Fall '74	Winter '75	Fall '75	Mean
Number of Students	41	36	36	28	21	19	23.30
Grade Point Average	2.73	1.78	2.00	2.05	2.17	2.36	2.18
Credits	6.05	6.22	8.17	10.64	11.24	11.37	8.96
"N" Grades	.49	1.50	1.61	1.14	.81	.68	1.04
"N" Credits	1.95	6.06	6.00	4.21	3.48	3.48	4.06

Table 3-A

PROFESSIONAL EDUCATION MAJORS

A Comparison of G.P.A.'s, credits, "N" grades, and number of "N" credits by Semesters of Experimental and Control Groups

Experimental Group

	Summer '73	Fall '73	Winter '73	Fall '74	Winter '74	Fall '74	Winter '75	Fall '75	Mean
Number of Students	13	9	6	4	4	4	4	4	6.67
Grade Point Average	3.38	2.28	2.61	2.73	2.99	2.99	2.97	2.83	
Credits	8.00	9.33	13.67	16.25	16.00	15.75	13.08		
"N" Grades	.00	.67	.33	.00	.00	.00	.00	.17	
"N"	.00	2.67	1.33	.00	.00	.00	.00	.67	

Control Group

	Summer '73	Fall '73	Winter '73	Fall '74	Winter '74	Fall '74	Winter '75	Fall '75	Mean
Number of Students	12	8	8	6	5	5	5	5	7.33
Grade Point Average	2.79	2.16	2.30	2.44	2.34	2.58	2.44		
Credits	6.66	6.50	13.00	14.60	14.40	15.40	11.76		
"N" Grades	.33	1.38	.50	.16	.20	.00	.43		
"N" Credits	1.33	5.50	1.75	.68	.40	.00	.92		

Table 4-A

RETENTION TABLE
Semesters Enrolled

Ex n=60			Con n=60			Experimental Group						Control Group						TOTAL		ex. con.	
			s73	f73	w74	f74	w75	f75	s73	f73	w74	f74	w75	f75	ex	con	%	%			
Hard Sciences	12	7	12	12	8	6	6	6	7	7	7	5	5	5	6	5	50	71			
Soft Sciences and Humanities	33	41	33	33	28	25	24	24	41	36	36	28	21	19	24	19	72	46			
Professional	13	12	13	9	6	4	4	4	12	8	8	6	5	5	4	5	30	41			
Technical	2	0	2	1	1	1	1	1	-	-	-	-	-	-	1	0	50	0			
Total	60	60	60	55	43	37	35	35	60	51	51	39	31	29	35	29	58	48			
No Longer enrolled as of Fall 1975:	Exp. 25	Con. 31	Reason for Leaving Oakland University																		
Transferred/IGS*			0	3	3	0	0	0	0	1	0	3	0	0	6	4	24	13			
Transferred/Op**			0	1	5	0	0	0	0	0	0	0	0	0	6	0	24	0			
DOGS***			0	0	1	1	1	0	0	2	0	1	0	0	3	3	12	10			
DOAD****			0	1	2	5	0	0	0	5	0	6	3	1	8	15	32	45			
Dismissal			0	0	1	0	1	0	0	0	0	2	5	1	2	8	08	26			
Personal			0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	03			
Total			0	5	12	6	2	0	0	9	0	12	8	2	25	31	58	48			
In Good Standing																					

*In Good Standing

**On Probation

***Dropped Out in Good Standing

****Dropped Out on Academic Difficulty

APPENDIX B

Appendix B

Table 1-B (Economic Means Test for Low-Income Underachievers)

Table 1-B illustrates the Economic Means Test established by the United States Office of Education for the determination of low-income students admitted into the Upward Bound Program.

Table 2-B (College Qualifying Questionnaire)

Table 2-B is a self-reporting non-standardized test completed by each student upon entering the Equal Opportunity Program for Disadvantaged Students.

Table 3-B (Student Information Intake Data Sheet)

Table 3-B is an information sheet completed by all entering freshmen with GPA's not greater than 2.75.

Table 1-B

ECONOMIC MEANS TEST
FOR
LOW-INCOME UNDERACHIEVERS

LIST A INCOME CRITERIA*

<u>Number of Family Members</u>	<u>Non-Farm</u>	<u>Farm</u>
1	\$2,254	\$1,916
2	2,823	2,399
3	3,356	2,838
4	4,277	3,611
5	5,048	4,301
6	5,679	4,849
7	7,000	5,963
**		

LIST B INCOME CRITERIA

<u>Number of Family Members</u>	<u>Non-Farm</u>	<u>Revised Income</u>	<u>Farm</u>
1	\$2,800	-3,300	\$2,400
2	3,500	-4,000	3,000
3	4,200	-4,700	3,500
4	5,300	-5,800	4,600
5	6,300	-6,800	5,400
6	7,100	-7,600	6,100
7	8,800	-9,300	7,500

*Eighty percent of students must come from List A Income Criteria

**Above 7 family members, add:

\$600 for each non-farm family member

\$500 for each farm family member

***Above 7 family members, add:

\$800 for each non-farm family member

\$700 for each farm family member

Table 2-B

COLLEGE QUALIFYING QUESTIONNAIRE

Read each of the following questions carefully. For each question, write the number on the answer sheet that corresponds best to your answer. Write only one answer for each question unless asked to list more than one choice.

1. Sex
 - (1) Male
 - (2) Female
2. Race or Ethnic Group
 - (1) Nativee American (Indian)
 - (2) Black or Afro-American
 - (3) Oriental
 - (4) Mexican-American
 - (5) White (Caucasian)
 - (6) Puerto Rican
 - (7) Other
3. How old were you on your last birthday?
 - (1) 17
 - (2) 18
 - (3) 19
 - (4) 20
 - (5) 21
 - (6) 22
 - (7) 23
 - (8) 24
 - (9) 25 or older
4. Make the best estimate you can of your family's total income for last year. Include money earned by anyone who contributed to the total family income.
 - (1) Less than \$2,000
 - (2) \$2,000 to \$2,999
 - (3) \$3,000 to \$4,499
 - (4) \$4,500 to \$5,999
 - (5) \$6,000 to \$7,499
 - (6) \$7,500 to \$9,999
 - (7) \$10,000 to \$14,999
 - (8) \$15,000 to \$24,999
 - (9) \$25,000 or more
5. When you were in high school, how many magazines did your family get regularly at home?
 - (1) None
 - (2) 1 or 2
 - (3) 3 or 4
 - (4) 5 or 6
 - (5) 7 or more

6. How many books were in your home when you were in high school?
 - (1) None or very few (0-9)
 - (2) A few (10-24)
 - (3) One bookcase full (25-99)
 - (4) Two bookcases full (100-249)
 - (5) Three or four bookcases full (250-499)
 - (6) Five to eight bookcases full (500-599)
 - (7) More than this (1,000 or more)
7. When you were in high school, about how often did you use a public library for reading not required by your school?
 - (1) Never
 - (2) Once a month or less
 - (3) Two or three times a month
 - (4) Once a week or more
8. In what setting did you grow up (or spend most of your life)?
 - (1) A city of more than 500,000
 - (2) A suburb of a city of more than 500,000
 - (3) A city of 50,000 to 500,000
 - (4) A suburb of a city of 50,000 to 500,000
 - (5) A city or town of 10,000 to 50,000
 - (6) A town of less than 10,000
 - (7) A farm, ranch, or other open location
9. How would you classify the neighborhood where you spend most of your life?
 - (1) Low income
 - (2) Middle income
 - (3) Upper income
10. How many of your brothers, sisters, and other relatives are dependent on your parents or legal guardian for financial support, including yourself? (Do not count your parent or guardian.)
 - (1) None
 - (2) One
 - (3) Two
 - (4) Three
 - (5) Four
 - (6) Five
 - (7) Six or more
11. During your college years, how many of your dependent brother or sisters will also be in college?
 - (1) None
 - (2) One
 - (3) Two
 - (4) Three
 - (5) Four or more
12. Which of the following grades best represent your overall grade-average in high school?

- (1) A-, A, or A+
 - (2) B+
 - (3) B
 - (4) B-
 - (5) C+
 - (6) C
 - (7) C-
 - (8) D-, D, or D+
 - (9) E
13. Which of the following best describes your high school or secondary school? (The school from which you graduated, or attended for the longest time.)
- (1) Public
 - (2) Private
 - (3) Military
 - (4) Bureau of Indian Affairs
14. Which of the following describes the majority of the students in your high school? (Mark only one.)
- (1) Black
 - (2) White
 - (3) Indian
 - (4) Mexican-American
 - (5) Puerto Rican
 - (6) Oriental
 - (7) Other
 - (8) None of these; students in my high school were about equally divided among two or more of the above groups.
15. The majority group named above represented what proportion of the student body at your high school?
- (1) All or almost all
 - (2) About three-fourths
 - (3) A little more than half
 - (4) No single group was in the majority
16. How many students were there in your high school?
- (1) Fewer than 500
 - (2) 500-999
 - (3) 1000-1499
 - (4) 1500-1999
 - (5) 2000 or more
17. What percentage of the students who graduate from your high school go on to college?
- (1) Almost all or most
 - (2) Half or more than half
 - (3) A large number but not half (26%-49%)
 - (4) A fairly small number (11%-25%)
 - (5) Very few (1%-10%)

18. How would you rate the academic program at your high school?
- (1) Very poor
 - (2) Poor
 - (3) Fair
 - (4) Good
 - (5) Very good
19. In high school, did you receive any special prizes, awards or recognition for any of the following kinds of activity? (Mark all that apply.)
- (1) Scholastic
 - (2) Athletic
 - (3) Artistic
 - (4) Literary/Oratory
 - (5) Community Service
 - (6) Social/Fraternal
 - (7) Political (includes Young Republicans, Student Government, etc.)
 - (8) None of the above
20. How far in school did your father go?
- (1) I don't know
 - (2) None, or some grade school
 - (3) Completed grade school
 - (4) Some high school, but did not graduate
 - (5) Graduated from high school
 - (6) Technical or business school after high school
 - (7) Some college but less than four years
 - (8) Graduated from a regular 4-year college
 - (9) Attended graduate or professional school
21. How far did your mother go in school?
- (1) I don't know
 - (2) None, or some grade school
 - (3) Completed grade school
 - (4) Some high school, but did not graduate
 - (5) Graduated from high school
 - (6) Technical, nursing, or business school after high school
 - (7) Some college but less than four years
 - (8) Graduated from a regular 4-year college
 - (9) Attended graduate or professional school
- NOTE: If you have no one acting as a mother or father to you at the present, answer (1) I don't know, to the questions referring to that parent who is missing, for questions 20 and 21.
22. How good a student does your mother want you to be in college?
- (1) I don't know
 - (2) Just good enough to get by
 - (3) In the middle of my class
 - (4) Above the middle of my class
 - (5) One of the best students in my class

23. How good a student does your father want you to be in college?
- (1) I don't know
 - (2) Just good enough to get by
 - (3) In the middle of my class
 - (4) Above the middle of my class
 - (5) One of the best students in my class
24. How good a student do you want to be in college?
- (1) I don't care
 - (2) Just good enough to get by
 - (3) In the middle of my class
 - (4) Above the middle of my class
 - (5) One of the best students in my class
25. Generally, do your parents feel that college training is absolutely essential for you?
- (1) No, neither does
 - (2) Father does but Mother doesn't
 - (3) Mother does but Father doesn't
 - (4) Yes, both do
26. How well do you feel you learned to study in high school?
- (1) I didn't learn to study at all
 - (2) I learned relatively little about how to study
 - (3) I learned fairly well
 - (4) I learned very well
27. How well did your high school training prepare you for college, as best you can tell so far?
- (1) Very poor
 - (2) Poor
 - (3) Fair
 - (4) Good
 - (5) Very well
28. How much education do you want to have?
- (1) I don't care
 - (2) Undecided
 - (3) Some college training, but less than 4 years
 - (4) Graduate from a 4-year college
 - (5) A graduate degree such as M.A. or Ph.D.
 - (6) A professional degree such as law (LL.B.) or medicine (M.D.)
29. If something happened and it looked like you would have to stop college now, how would you feel?
- (1) Very happy--I would like to quit
 - (2) I wouldn't care one way or the other
 - (3) I would be disappointed
 - (4) I would try hard to continue
 - (5) I would do almost anything to stay in college

30. Do you usually find writing papers a difficult task, or do you have relatively little difficulty putting your ideas down on paper?
- (1) I find writing papers a very difficult task
 - (2) I frequently have some difficulty writing
 - (3) Usually I do not have much difficulty writing
 - (4) I have little if any difficulty expressing myself in writing
31. How bright do you think you are in comparison with the other students in your high school this year?
- (1) Among the lowest
 - (2) Below average
 - (3) Average
 - (4) Above average
 - (5) Among the brightest
32. Good luck is more important than hard work for success.
- (1) Agree
 - (2) Not sure
 - (3) Disagree
33. People like me don't have a very good chance to be successful in life.
- (1) Agree
 - (2) Not sure
 - (3) Disagree
34. Every time I try to get ahead, something or somebody stops me.
- (1) Agree
 - (2) Not sure
 - (3) Disagree
35. I sometimes feel that I just can't learn.
- (1) Agree
 - (2) Not sure
 - (3) Disagree
36. I would do better in school if teachers didn't go so fast.
- (1) Agree
 - (2) Not sure
 - (3) Disagree

_____ Freshman
_____ Sophomore

_____ Upperclassman
_____ Graduate Student

FOOTNOTES

Footnotes

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VITA

Name: George A. Jackson
Address: 304 Ottawa Drive
Pontiac, Michigan 48053
Telephone: (313) 335-1973

Educational Background

B.A., Bethune-Cookman College, 1963 (Major-History); (Minor-Sociology)
Stetson University, 1966 (Professional Growth)
M.A., North Carolina A & T State University, 1968 (Guidance & Counseling)
Michigan State University, 1969-70; (Professional Growth-Adult Education)
Michigan State University, 1973; Administration of Higher Education, Ph.D. (candidate for graduation August, 1976)

Employment

1. Howard High School, Ocala, Florida (1963-66)
2. Pontiac Central High School, Pontiac, Michigan (1968-70)
3. Oakland Community College-Extension Campus part-time (1969-72)
4. Oakland University, Rochester, Michigan (1970-present)

Organizations and Conferences

1. American Personnel and Guidance Association (Presentor 1972 Annual Convention Chicago-Special Programs: Miracles, Model or Case Study)-Member
2. National Association of Student Personnel Administrators-Member
3. American Association of Higher Education-Member
4. Michigan Council of Educational Opportunity Programs-President

Current Interests

1. Management system for the implementation of higher education
2. Equal access and persistence of underprepared students
3. Financing higher education
4. Pre-college experience for disadvantaged students
5. Management by Objectives
6. Affirmative Action

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