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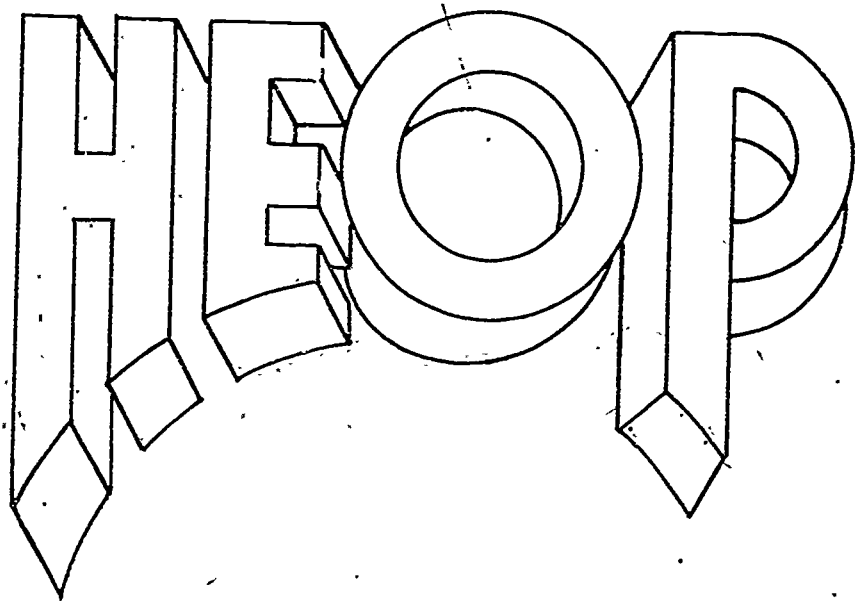
ABSTRACT

This research study conducted by the Bureau of Higher Education Opportunity Programs and supported by the Bureau of Research in Higher and Professional Education attempted to gain a longitudinal perspective on the effectiveness of Higher Education Opportunity Programs (HEOP) established in 53 private institutions of higher education aimed to the educationally, economically, and socially disadvantaged. Marking the first large scale attempt of its kind, this study compared measures of academic success in terms of grades, graduation, and retention of two groups of 644 students who attended these institutions prior to 1967 and after HEOP inception in 1970. A Likert-Type Scale questionnaire administered to key officials was designed to gauge the degree of change occurring in the college environment during the 1967-1970 period which could have affected the quality of educational experience for the disadvantaged. External changes were found to be minimal, indicating HEOP as the determining agent. Results indicated higher grade point averages and higher retention and graduation rates for program students despite their shared similarity with non-program students in economic and academic backgrounds. Given the overwhelming positive results, funding of other opportunity programs was highly recommended. Appendices include sample characteristics, demographic data, entrance criteria, performance data, statistics used, instruments, and an annotated bibliography. (AM)



THE EFFECTIVENESS OF POSTSECONDARY OPPORTUNITY PROGRAMS FOR THE DISADVANTAGED

The University of the State of New York
THE STATE EDUCATION DEPARTMENT
Office of Higher and Professional Education
Albany, New York 12230
1975

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A Report of a Research Study Conducted by the Office of Higher and Professional Education

The University of the State of New York
THE STATE EDUCATION DEPARTMENT
Albany, New York 12234
November 15, 1974

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FOREWORD

The research study contained herein was conducted in the fall of 1974 by the Bureau of Higher Education Opportunity Programs with the support of the Bureau of Research in Higher and Professional Education, effective and swift completion was made possible by the superb efforts of a large number of dedicated individuals.

Staff of both Bureaus coordinated efforts in the conceptualization of the project, the construction of appropriate instruments, and the collection and analysis of data. Zenobia O'Neal served as the study director.

We are grateful to the presidents and staffs of the sampled campuses, without whose cooperation this research effort could not have been attempted, let alone completed in such a timely fashion.

This study is the first known large scale attempt to gain a longitudinal perspective on the impact of opportunity programs. The findings should be helpful in strengthening services to nontraditional students as part of providing broader opportunity for access—and success—in postsecondary education.

T. Edward Hollander
Deputy Commissioner for
Higher and Professional Education

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THE EFFECTIVENESS OF POSTSECONDARY OPPORTUNITY PROGRAMS FOR THE DISADVANTAGED:
A Report of a Research Study

I. INTRODUCTION

Over the last decade, several hundred thousand persons have entered American colleges and universities through special programs for the educationally, economically, and socially disadvantaged. In addition to the institutions which have traditionally served black populations, nearly all public and private postsecondary institutions in the country have mounted programs which, while varying in scope, intensity, and resources, have shared the singular mission of developing techniques and strategies for meeting the needs of these new populations, needs which are quite different, in a multitude of ways, from those of traditional college students.

The purpose of the study described herein was to attempt to ascertain the effectiveness of such programs at private institutions of higher education in the State of New York in meeting the needs of the populations served. The criterion of effectiveness used was not simply access to higher education, but rather the traditional measures of academic success: grades, timely accumulation of credits toward the degree, and persistence to graduation. Data were collected on two groups. One was disadvantaged students at a number of private institutions in New York State who were admitted in 1967. This was prior to the beginning of the Higher Education Opportunity Program. The other group was students who entered those same institutions as Higher Education Opportunity Program students in 1970. Both groups were controlled for similarities on various measures of disadvantage. The predominant inference drawn is that the programs appear to have had a demonstrable, positive impact on the success chances of the disadvantaged student.

II. DEMOCRATIZATION OF HIGHER EDUCATION

It can be said of American higher education that it has been characterized, since its inception, by erratic democratization. Access to the early colleges was a perquisite of the well-born, and a college education was generally preparation for the ministry. Even before the Civil War, however, public pressure had stimulated the creation of diverse institutions, including a number created by state governments (most of which were founded or reinvigorated by the Morrill Land Grant in 1862) and the City College of New York, begun as the Free Academy in 1849 (Irwin, 1961). While it was often the explicit purpose of such institutions to provide increased access to postsecondary opportunity for Americans, the enfranchisement of certain groups lagged behind. Women were long underrepresented, first being admitted on an equal basis with men with the opening of Oberlin College in 1833. For minority groups the record is spotty. Even with the opening of institutions specifically for black students (normally under philanthropic sponsorship), few opportunities existed. Nationally, undergraduate enrollment grew at a steady rate, from 232,000 in 1899 to 1,396,000 in 1939 (Armstrong, 1939). This impressive growth in numbers however meant little in terms of increased minority access. The number of blacks receiving bachelor's degrees during this period went from about 1,200 to approximately 9,005. But the percent of blacks involved in higher education remained low, reflecting limited access.

Aside from social factors, the ability to pay was the greatest limitation on postsecondary educational access until World War II. In the last year of that war, the Servicemen's Readjustment Act (the GI Bill) brought about a massive influx of new students into college. Nearly three million persons attended postsecondary institutions under these provisions, and in the peak years of 1946–48, approximately half of all students attending college were receiving benefits as veterans (Cartter, 1965).

Thus, as America moved into the 1950's, most large groups had received at least minimum enfranchisement for postsecondary education. Those most notably left out were those who had *always* been left out – the poor, and, most strikingly, the minorities. Brown v. Board of Education, in 1954, signalled a rise in aspirations, however, there was the renewal of hope in many quarters that the democratization of American education, including higher education, could at last be completed.

A crescendo of events followed. The "Sputnik climate" in 1957 brought about the National Defense Education Act. This marked the first time that Federal grants and loans for college, awarded partly on the basis of need, became widely available. The Kennedy-Johnson administrations, with their promises of equal opportunity finding fulfillment in many areas, were perhaps best symbolized in higher education by the admission of James Meredith to the formerly segregated University of Mississippi.

It was during this period that a great many colleges and universities (with the urging of activist students) began to make a place for minorities and other traditionally underrepresented groups. Often these limited programs took an elitist form, scouring the country for the "best" minority students (those who represented the least risk to the campus). This kind of recruitment was a disservice to the cause of blacks in higher education. It was often done at the expense of institutions such as Hampton University and Howard University, which were already serving blacks.

In that era there were some institutions which took a more inclusive approach. The City University of New York, in many ways a bellwether for the entire country, began its SEEK* program at a few campuses as early as 1965. This program constituted one of the first attempts (outside of the black colleges) to admit students without an academic screening process. The program was designed to take students *from where they were*, in terms of precollege preparation and, through a variety of innovative, culturally sensitive techniques and services, help them earn a college diploma.

The chaotic social climate of the midsixties, epitomized by the death of Martin Luther King in 1967 and the attendant public reaction, forced the campuses to speed up their previously slow pace of assimilation. Numerous campus incidents, such as the seizure of Cornell's Willard Straight Hall by armed black students, further sensitized administrators at all levels to the critical need for change in the higher education structure. It was in this atmosphere that legislation establishing opportunity programs was written in New York State. Initially, legislation was passed at The City University. Opportunity program legislation currently in effect (passed in 1970) established such programs in a coordinated manner at the City and State Universities and at private higher education institutions in New York.

* Search for Education, Elevation and Knowledge

III. THE HIGHER EDUCATION OPPORTUNITY PROGRAM

The Higher Education Opportunity Program (HEOP) in New York's postsecondary program for the disadvantaged at private sector colleges and universities. Under its terms, institutions annually apply for grants through a proposal process. In 1974, nearly 70 separate institutions, serving 5,300 HEOP students, participated in the program. This was a 56 percent increase, from 3,400 HEOP students in 1970.*

HEOP moneys may be used for various academic supportive services for program students, notably counseling, tutoring, remedial/developmental coursework, and special summer programs. Additionally, funds may be used for college-related expenses, such as room, board, and books. A legislative amendment passed in 1972 now allows for partial subsidy of tuition costs as well.

IV. THE DISADVANTAGED STUDENT

Students in the Higher Education Opportunity Program must be educationally and economically disadvantaged. Economic disadvantage has always been calculated on a scale of family income, adjusted for number of dependents. The original scale was based on poverty level definitions of the Bureau of Labor Statistics. The definition of educational disadvantage has not been so easily conceived nor so consistent, but always has intended to define that population whose chances for collegiate entrance and success were severely limited by virtue of previous academic achievement. In the terms of HEOP guidelines, such a student

> . . . has not acquired the verbal, mathematical, and full range of cognitive skills required for collegiate level work. Generally he is a student whose grades fall in the bottom half of his high school class, who has not earned a college preparatory diploma, and is assigned to a high school which has a poor record for student achievement or who has been tracked into a general, commercial or vocational high school program.
>
> Such a student will generally rank low on such traditional measures of collegiate admissions as the SAT board scores, high school average, class standing, or (state) examination.

* The College Entrance Examination Board has estimated that each year approximately 40,000 graduating high school seniors in New York State would be eligible for participation in opportunity programs by virtue of economic and academic disadvantage

Such students are in many ways part of the group of "new students," in Cross' terms, whose appearance on campuses characterizes the 1970's. Based on four broad-based samples, Cross (1971) attempted to summarize some of the characteristics of the new student. She found that a high proportion are ethnic minorities, about two-thirds of the students' fathers had completed only high school or less, about 60 percent of the students' fathers held blue-collar jobs, in general, students reported their secondary school performance to be average or below, measured by self-report grades, rank in class, expected teacher rating or grades earned.

Other writers have dealt in general terms with the characteristics of this group of students. Crossland (1971) noted that the future may see a shift in emphasis from race to economics. Sewell (1971), in his longitududinal study of Wisconsin students underscored Crossland's point by describing the closely dependent relationship of college attendance to socioeconomic status. Bayer and Boruch (1969) provided an indepth picture of the black student (although not all black students are new students, nor are all new students, nor even a majority of them, black). Kerr (1972) made some general forecasts about the shape of higher education in the future and the great diversified clientele it will have to serve.

V. INSTITUTIONAL RESPONSES

During the sixties, there was increasing awareness in higher education that nontraditional students were entering in even greater numbers, bringing with them academic needs and expectations different from those normally served by the campuses. To many, though, there appeared to be a significant lag in devising the strategies necessary to meet the needs of these new students. The core courses of the college curriculum, the methods of teaching, the provision of financial aid, the provision of remedial courses or tutorial services, personal counseling—none seemed to have begun to change significantly by 1970.

In designing this study, which measures opportunity program impact by comparison of similar students before programs in 1967 and after HEOP in 1970, it was felt important to test the accuracy of the above-mentioned perception, *i.e.*, that there had been little campus change (outside these programs) to serve nontraditional students in the years under scrutiny.

A questionnaire was thus constructed to attempt to gauge changes in the college environment in the timespan of the study (see appendix F), especially in variables affecting the quality of the collegiate experience for the nontraditional student. The questionnaire was administered to key administrators with experience across the span in question.

The Institution Questionnaire included both quantitative and qualitative areas concerning the overall college environment, such as total undergraduate enrollment, total full-time faculty and staff, existence and magnitude of specific services, admissions criteria and academic profile, facilities, accessibility of faculty, numbers and proportions of minority students and faculty, academic quality of course offerings, overall mission, types of student clientele and changes brought by nontraditional students. A Likert-type scale (a rating scale on a positive to negative continuum) was used to record the responses.

In reviewing the results in tables 1 and 2, it is immediately obvious that the only factors in which a majority of administrators saw "much change" was counseling (85 percent), financial aid (62 percent), remedial services (100 percent), and tutorial assistance (100 percent). *All of these services are HEOP-funded.* On the other hand, where some other changes might have been made to be more helpful to nontraditional students, such as faculty access, service to the community, school mission, or the number of minority faculty, in a majority of cases slight or no change is listed. *In all of these areas change would be initiated by the institution.* Thus, as far as differences in performance for similar students in 1967 and 1970 are attributable to the factors below, HEOP was a determining influence.

Table 1

QUESTIONNAIRE RESULTS
CHANGE IN OVERALL COLLEGE ENVIRONMENT
BETWEEN 1967 AND 1970
(QUANTITATIVE AREAS) N=13

Questionnaire Item	Percent of Responses by Category		
	Much Change	Moderate Change	Slight or No Change
Total Enrollment	23%	15%	62%
Total Faculty	8%	31%	61%
Number Minority Students	15%	8%	77%
Number Minority Faculty	15%	—	85%
Counseling	85%	—	15%
Financial Aid	62%	—	38%
Remedial Services	100%	—	—
Tutorial Assistance	100%	—	—
Admission Criteria	—	8%	93%
Academic Profile	—	15%	85%

Table 2

QUESTIONNAIRE RESULTS
CHANGE IN OVERALL COLLEGE ENVIRONMENT
BETWEEN 1967 AND 1970
(QUALITATIVE AREAS)

Questionnaire Item	Percent of Responses by Category		
	Much Change	Moderate Change	Slight or No Change
Facilities	8%	15%	77%
Faculty Access	15	23	62%
Favorability of Student Attitudes	8	23	69%
Extent of School's Community Service	15	23	62%
Quality of School's Community Relationship	23	8	69%
Quality of Program Offerings	8	23	69%
School Mission	23	23	54%
Clientele	31	23	46%
Integration of Traditional and Nontraditional Students	15	38	46%
Influence of Nontraditional Students	15	31	53%

VI. RESEARCH STUDY: THE EFFECTIVENESS OF POSTSECONDARY OPPORTUNITY PROGRAMS

Statement of the Problem

While the literature has described the academic problems of the disadvantaged student at length and in detail, the ways in which these problems are met have not received much study.

The few programs that have been evaluated in the literature, and most writers who have argued for specific programs, sought to provide the student with success experiences. Achieving greater relevance by using familiar or intrinsically interesting material is considered desirable, also, personalizing study programs to fit individual needs and capabilities has been useful.

Baer (1969) reported a remedial program for disadvantaged students in the Chicago City Junior Colleges specializing in individual attention for the student. Compared to a control group, the experimental group had a significantly greater number of students remaining after 1 year and a greater increase in GPA* from the first to the second semester. Similar success has been reported by other investigators of programs offering special courses for the disadvantaged aimed at the development of reading, writing, and study skills (Bridge, 1970, Christenson, 1971, Ratekin, 1971).

An appropriate student support delivery system has been devised for economically and educationally disadvantaged students in New York State institutions of higher education. These programs include the use of the following supportive services: personal, academic, and job counseling, tutoring, prefreshman summer courses, the upgrading of study skills; and developmental courses.

The present study attempted to measure the success of disadvantaged students in special programs in private institutions in New York State. The thesis underlying this research was that the problems of the educationally disadvantaged, pointed out by such theorists as Conant, Deutsch, Sexton, and others, can be positively affected by specific relevant strategies.

The primary purpose of the study was to measure the effect of the Higher Education Opportunity Program in helping disadvantaged students develop the skills and cognitive strengths to improve grades in college and to graduate.

* GPA = grade point average

This study essentially compared the academic progress (over 4 years) of disadvantaged college students in special programs having supportive services, with a control group of similar disadvantaged students at the same campuses *prior* to such special programs.

It was hypothesized that:

1. HEOP students would have higher grade point averages than nonprogram students.
2. A higher percentage of HEOP students would graduate than nonprogram students.
3. A lower percentage of HEOP students would leave college for academic reasons than nonprogram students.

Method

A longitudinal research approach (post hoc) was used to compare the success of disadvantaged students prior to the Higher Education Opportunity Program with similarly disadvantages students after the programs were brought to college campuses. The 1970 freshman class of program students was chosen for a longitudinal study of their 4-year progress toward graduation in 1974. In order to get a comparable control group for comparison, students were selected who would have met the program requirements as to economic and academic disadvantage had there been a program at the private institutions when they entered as freshmen in 1967. The control group did not receive supportive services, as such services were not available in the late sixties.

A more ideal experimental design would have included the assigning of disadvantaged students to either a treatment group or nontreatment group during the same time frame, and then following them over the next 4 years. However, this would not have been educationally feasible. To deny students the assistance after programs became available on campuses would not have been ethically sound.

Therefore, the present study is post hoc of necessity. It is, however, one of the first, if not the first, attempts at longitudinal analysis in this field, using a control group, hard data, a large, representative random sample, and statistical analysis.

Sample

The total population included all 53 private colleges having Higher Education Opportunity Programs in 1970 (3,382 disadvantaged students). The campuses that admitted disadvantaged students in 1967

(prior to the inception of an opportunity program) were identified. These campuses were further checked for availability of records of sufficient accuracy and detail to enable the identification of students who, on the important variables of income, high school average and SAT scores were statistically similar to HEOP students entering in 1970 (average gross income under $6,000, high school average 85 or below, SAT verbal and math scores, each 500 or below).

Twenty-five HEOP campuses having such historical data were identified. These were then stratified by size, geographic location, and religious affiliation. A representative sample of 13 campuses was then randomly selected.

The total student sample size was 644. Of these, 370 were HEOP program students who entered as freshmen in 1970, and 274 were non-HEOP (but equally disadvantaged) students who entered the sample campuses as freshmen in 1967. (See table of sample institutions in appendix.)

Data Collection

Data collection was done by consultants who visited each of the 13 sample campuses to copy entrance and performance data from the files in the Registrar and Financial Aid Offices for each student in the sample.

An interview questionnaire was also administered to a high ranking college official to assess the general climate of the sample campuses during the time periods under study.

The data collection instruments (see appendix) included an individual Student Data Form and an Institution Questionnaire.

The Student Data Form included the following items: income, number of dependents, sex, marital status, birth year, ethnicity, high school average, SAT verbal score, SAT math score, RSE score, grade point average for each class year, overall grade point average, major field of study, credit hours earned per academic period, rate of leaving or graduation, and reason for leaving. The forms were coded for confidentiality.

Analysis

Information from all items on coded individual data forms were keypunched and processed by the computer terminal. Output data yielded frequency distributions on entrance profiles for program students (HEOP) and nonprogram students (non-HEOP), as well as performance variables for each group.

Entrance profile means were computed, by group, for income, number of dependents, high school average, SAT verbal score and SAT math score.

Also, academic performance means were computed, by group, for overall grade point average (including all sample students), overall grade point average (for graduates), and senior-year grade point average (for graduates).

In order to determine the significance of mean differences, the t test* was used, with a 99 percent level of confidence. The null hypothesis (no difference) was used with the possibilty of it being rejected at the .01 level of significance. The value of t at this level of significance must be 2.586 for a sample size of 500+.

Percentages were used to compare graduation and attrition conditions. In addition, the X^2* was computed to test the significance of the observations on each category. The null hypothesis (of independence of categories in the contingency table) was used, with the possibility of it being rejected at the .01 level of significance. The value of X^2 at this level must be 13.277 for 4 degrees of freedom.

Results

Results of the student data analysis for entrance criteria are reported in table 3.

Table 3

MEAN DIFFERENCE BETWEEN PROGRAM AND NONPROGRAM GROUP ON ENTRANCE CRITERIA

	Income	Number of Dependents	High School Average	SAT Verbal	SAT Math
HEOP	$4,758	4.15	76.6	380	387
Non-HEOP	4,931	4.57	77.4	408	433
t	0 57	1 80	39	−4.28**	−6.72**

** P<.01

* A t test is a statistical test to discover if the difference between two means is significant, or merely due to chance.

A X^2 (chi square) shows the degree of divergence between observed and expected frequencies

Subjects in the non-HEOP group (control group) are not statistically different from the HEOP group (experimental group) on income, dependents, or high school average. They both have an average income below $6,000 (actual mean about $4,800) and a high school average below 85 (actual mean about 77). Therefore, the null hypothesis of no difference was not rejected. The t value for significance of mean difference at the .01 level was not met. The values are below the 2.586 needed for the sample size. Neither were they significant at the .05 level, which must be 1.965.

Both groups also meet the program criteria as disadvantaged according to scores on standardized tests. The mean SAT scores, both verbal and math, are below 500. However, the non-HEOP group does have a higher average SAT score than the HEOP group, on verbal and on math scores. Therefore, the null hypothesis of no difference is rejected. The t value is significant beyond the .01 level.

Table 4

MEAN DIFFERENCE BETWEEN PROGRAM AND NONPROGRAM GROUP ON PERFORMANCE CRITERIA

	Total Sample Overall GPA	Graduate Overall GPA	Graduate Senior Year GPA
HEOP	2.33	2.65	2.92
Non-HEOP	1.79	2.39	2.69
t	11.65**	5.44**	3.79**

** P< .01

In table 4 the mean grade point average for HEOP program students is significantly higher than the mean grade point average for non-HEOP students. The t value for difference of means is far beyond the necessary 2.586 needed for the sample size at the .01 level. Therefore, the null hypothesis of no difference is rejected. This shows beyond the 99 percent level of confidence (statistically) that the differences are real.

The program students also exhibit a higher percent of graduates than the nonprogram group, as shown in table 5.

Table 5

PROGRAM AND NONPROGRAM GROUP LEAVING, BY REASON

Subgroup	Reason for Leaving					
	Graduation	Academic Problem	Financial Problem	Personal Problem	Other	TOTAL**
HEOP						
number	190	55	7	57	61	370
percent	51%	15%	2%	15%	17%	100%
Non-HEOP						
number	97	97	1	11	68	274
percent	35%	35%	1%	4%	25%	100%
TOTAL	287	152	8	68	129	644

** significant $X^2 = 63.12$, $< .01$, df=4

Note: HEOP students are given 5 years in which to graduate. Therefore the total graduates for HEOP (190) includes 25 students who will graduate in 1975.

Inspection of the table also reveals that more non-HEOP students left for academic reasons than the HEOP students.

The X^2 value of 63.12 is greater than the 13.277 which would occur 1 percent of the time when the null hypothesis is true. Therefore, the null hypothesis, that the two criteria of classification in table 5 (reason for leaving, and subgroup) are independent is rejected.

The result shows that the probability of a given individual falling in a particular category of "leaving" is influenced by the particular subgroup (HEOP or non-HEOP) in which the individual falls.

Findings

Results of this study show that program students, though similar to nonprogram students in economic and academic backgrounds, actually are more successful on the measures of grade point average, graduation, and retention.

An interesting finding was that the nonprogram group entered college with significantly higher SAT scores, which usually correlate well with GPA and are often used for prediction. Had the much lower SAT scores of program students been used for prediction, they would have been quite inaccurate. The correlation is clearly negative and insignificant.

All three of the research hypotheses were supported.

1. The mean grade point average for HEOP students was found to be significantly higher than the GPA for non-HEOP students. The range and standard deviation for the two groups differ greatly. Observation of frequency tables shows members of the HEOP group in the 4.0 category, a straight A average, as compared to a high of 3.2 (3) for the non-HEOP group. (This is supported by additional statistical tables in the appendices.)

2. The HEOP group showed a great difference in the percent of graduates. 165, or 45 percent, of the 1970 entering class, as compared to 97 students, or 35 percent, of the non HEOP group. This was measured over a 4-year time period. However, HEOP students are given 5 years in which to graduate. The 25 (10 percent) students "still there" will graduate in 1975. With this number added, the total graduates become 190 out of 370, or 51 percent, which is actually slightly above the State and national rate for regular students.

3. Fewer program students left college for academic reasons than non-HEOP students. only 15 percent, or 55 students, of the program sample, as compared to 97 students, or 35 percent of the nonprogram sample.

A review of the literature revealed a paucity of research studies measuring the effectiveness of special programs for college students, showing a need for expanded activity in this field. Much more attention has been given to the area of ethnic studies, also, problems inherent in the "different" backgrounds of disadvantaged or "new" students, problems that seem to forecast failure, have been identified. These problems have been highlighted in the scholarly work of Deutsch and Conant, among others. The positive findings of the present study should be beneficial in promoting additional research in this area.

VII. CONCLUSIONS

The findings of this study did reveal that disadvantaged students at campuses *after* the inception of Higher Education Opportunity Programs performed more successfully than their counterparts at the same campuses prior to such programs, affirming the three stated hypotheses. Both groups of students studied were similarly disadvantaged. With respect to economic circumstances, the 1970 group was a bit more deprived economically, especially when one figures in the effect of inflation. In terms of prior academic achievement, a corollary statement is appropriate, 1970 HEOP students were as underprepared

as their 1967 counterparts according to the standard measures in use for determining academic eligibility. In fact, the 1970 students had lower SAT scores than the other group. Given the requirement that HEOP students must have a dual disadvantage (economic and academic), there can be no question that the samples drawn for comparison were as identical as possible.

The questionnaire administered to high ranking academic officials at the sample campuses generated some interesting information. The most visible campus changes reported were in the area of supportive services. The dramatic increase in counseling, remedial services, and tutorial assistance clearly support the hypotheses underlying this research effort. To reiterate an earlier point, HEOP is a supportive services program, such services were not available to disadvantaged students prior to the advent of opportunity programs, and one can realistically relate the success of program students to the additional academic assistance the program provided to those admitted under the HEOP aegis.

It is also important to note that this study is probably the first attempt to gain a longitudinal perspective of the impact of opportunity programs, particularly if one considers the rigor with which the scientific method was utilized in this case. This was the earliest possible time this type of study could have been attempted, since private sector opportunity programs have only recently concluded their fourth full year under a funding model designed to bring sorely needed supportive academic services to bear on the educational deficits on nontraditional students.

Clearly, the success rates of the sampled HEOP students greatly surpass the collegiate achievement levels of their 1967 counterparts on all measures, *i.e.*, overall grade point average, GPA achieved in the senior year, and the percentage of graduates. Additionally, many more students in the 1967 group left college for academic reasons than did so in the later sample, again suggesting that the provision of HEOP supportive services was a critical factor in enabling a student to persist through to graduation.

VIII. RECOMMENDATIONS

Based on the overwhelmingly positive results of this study, and the trend toward declining enrollment of "regular" students, there is good reason to believe that the overall student body should and will continue to be made up of significant numbers of nontraditional students. For an example of the magnitude of demand, The City University SEEK program must use a lottery system to screen out the three of

four eligible applicants annually for whom there is no space available. In the private sector, thousands of eligible students cannot receive HEOP assistance each year due to limited fiscal resources.

New Federal and State financial aid approaches, embodying the philosophy of entitlement to aid based on need, coupled with the increasing reach and scope of public university and community college systems, with their goal of open admissions, provide avenues of educational enfranchisement for ever more students—students who continue to be poor, of ethnic minorities, older, and in many other ways different from the traditional student. With more HEOP-type students on campus then, more special services will be needed. Public support for opportunity programs should be strengthened. Institutions, faced with rising costs, cannot shoulder program costs alone. Without these programs, those less well prepared students will be denied equal opportunity for success they have been admitted to college.

Project Directors in the opportunity programs frequently encounter nonprogram, more traditional students who request various HEOP program services, many of which are not available elsewhere on the campus. These students correctly perceive such services as valuable to *all* students—not just those characterized as disadvantaged. Leadership in higher education would do well to investigate those innovations—aside from the learning centers which largely began in these programs and now serve all students—that have broad applicability and should be implemented for all.

Finally, the literature search undertaken for this study revealed an amazing scarcity of good research in the area of opportunity programs which exist in many states and involve many millions of dollars and thousands of students. It is vital that research and evaluation studies be carried forward in this important area—both in the sponsoring agencies and at the participating campuses.

It is critical that opportunity programs be fully funded, so that the necessary supportive services and financial assistance can be brought to bear on the needs of the economically and educationally deprived, especially since, as has been shown, such students are enabled to achieve a notable record of success with such help.

Appendix A

DESCRIPTION OF SAMPLE

(Tables)

Table A1

SAMPLE INSTITUTIONS BY STRATIFICATION

Size Category	Religious Affiliation	Number Institutions	Sample Size
Multiversity	Religious	1	124
Multiversity	Nonsectarian	2	184
University	Nonsectarian	2	40
Large College	Religious	1	83
Large College	Nonsectarian	2	92
Small College	Religious	2	54
Small College	Nonsectarian	3	67
Total		13	644

Table A2

INSTITUTIONAL SAMPLE SIZE

Subgroup	INSTITUTION													
	A	B	C	D	E	F	G	H	I	J	K	L	M	Total
Non-HEOP	18	53	10	50	12	26	17	6	12	13	9	6	42	274
HEOP	106	41	15	33	21	36	19	8	18	7	9	9	48	370
Total	124	94	25	83	33	62	36	14	30	20	18	15	90	644

Appendix B

DEMOGRAPHIC DATA

(Tables and Graphs)

Table B1

MARITAL STATUS BY SEX

Subgroup	Married				Not Married				Unknown Status				
	M	F	Unknown	Total	M	F	Unknown	Total	M	F	Unknown	Total	Total
Non-HEOP	2	—	—	2	78	77	—	155	83	30	4	177	274
HEOP	3	16	—	19	122	160	1	283	45	21	2	68	370
Total	5	16	—	21	200	237	1	438	128	51	6	185	644

Table B2

SEX AND MARITAL STATUS

Subgroup	MALE				FEMALE				
	Married	Not Married	Unknown	Total	Married	Not Married	Unknown	Total	Total
Non-HEOP	2	78	83	163	—	77	30	107	274
HEOP	3	122	45	170	16	160	21	197	370
Total	5	200	128	333	16	237	51	304	644

Note: Sex unknown: Non-HEOP 4, HEOP 3

Table B3

ETHNICITY

Subgroup	Unknown	Black	Spanish-Surnamed American	White	Oriental	Other	Total Percent
Non-HEOP[1]	39% N=107	24.9% N=68	16.5% N=46	18.6% N=51	0.4% N=1	0.7% N=2	42.5% N=274
HEOP[2]	9.4% N=35	61.6% N=228	21.7% N=80	5.7% N=21	1.3% N=5	0.2% N=1	57.5% N=370
Total %[3]	22% N=142	45.9% N=296	19.4% N=125	11.1% N=72	0.9% N=6	0.4% N=3	100% N=644

[1] Figures indicate percent of non-HEOP subgroup.
[2] Figures indicate percent of HEOP subgroup.
[3] Figures indicate percent of total group.

Appendix C

ENTRANCE CRITERIA

(Graphs and Tables)

Figure C1

GROSS FAMILY INCOME
FOR ALL SAMPLE STUDENTS

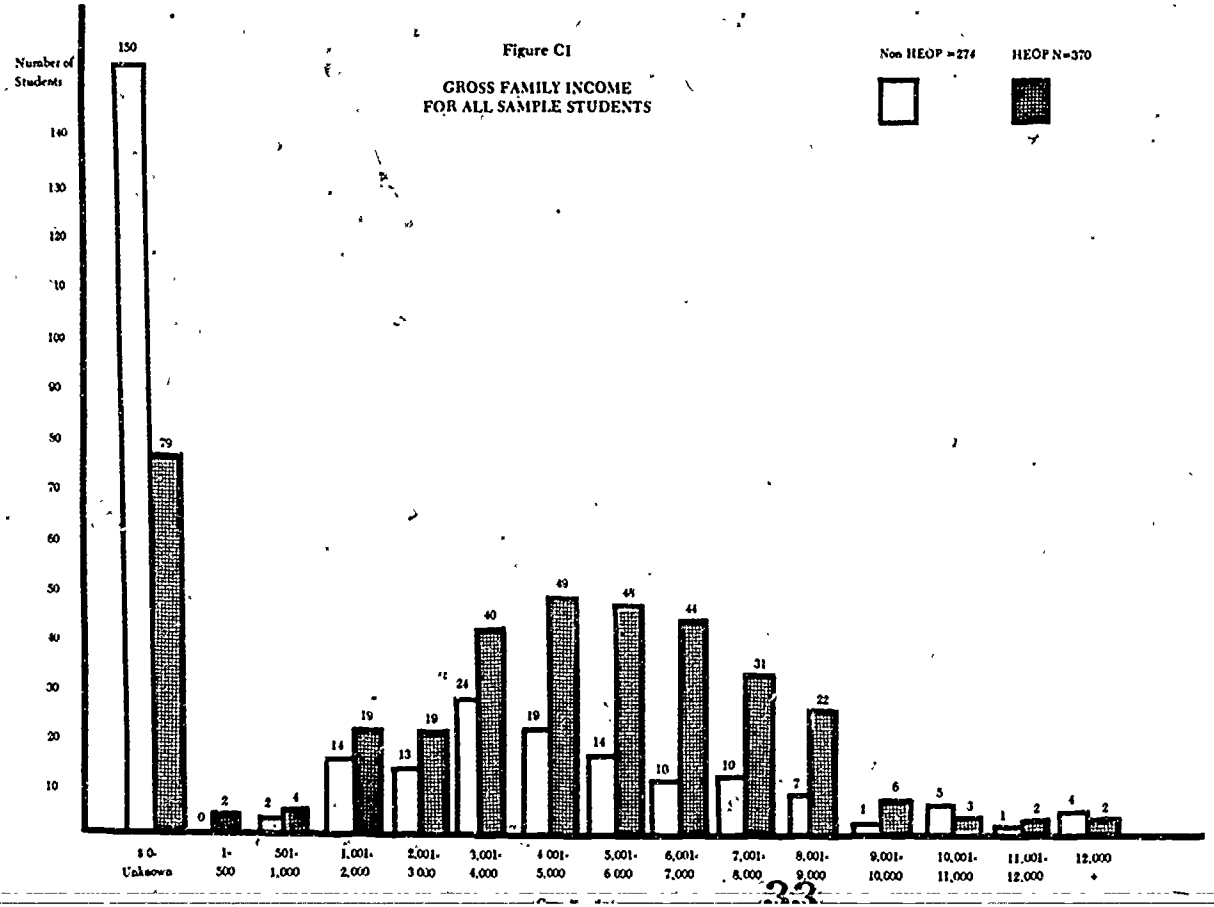


Figure C2

HIGH SCHOOL AVERAGES OF ALL SAMPLE STUDENTS

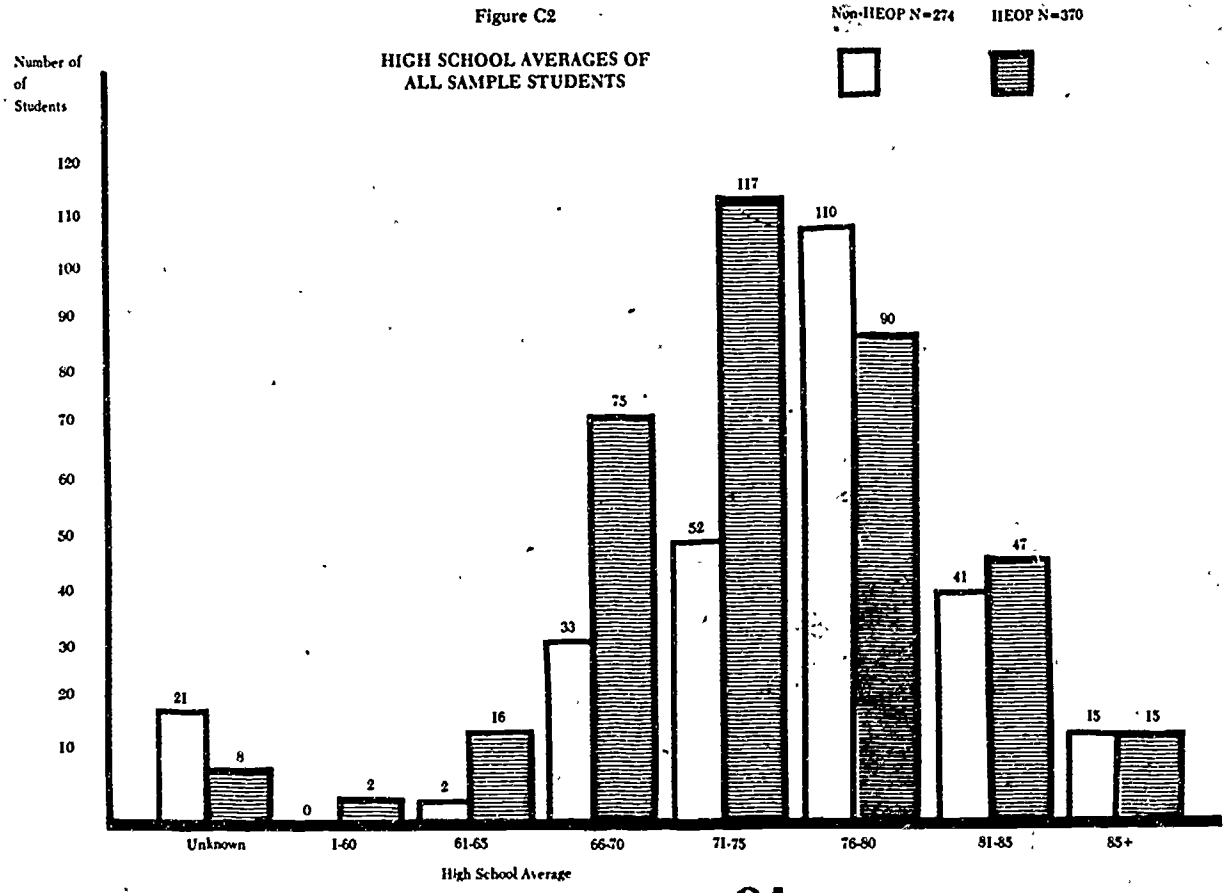


Figure C3

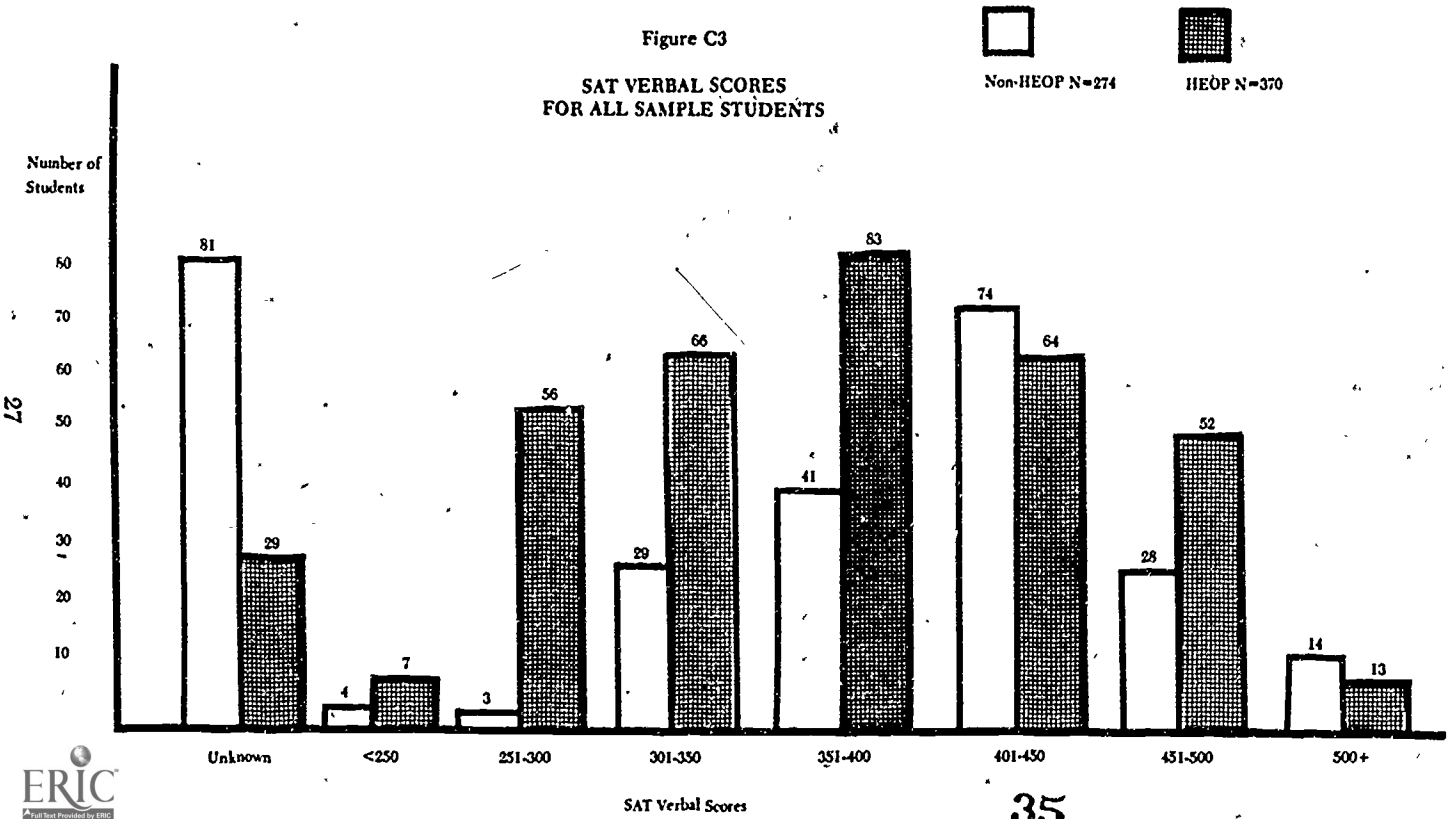
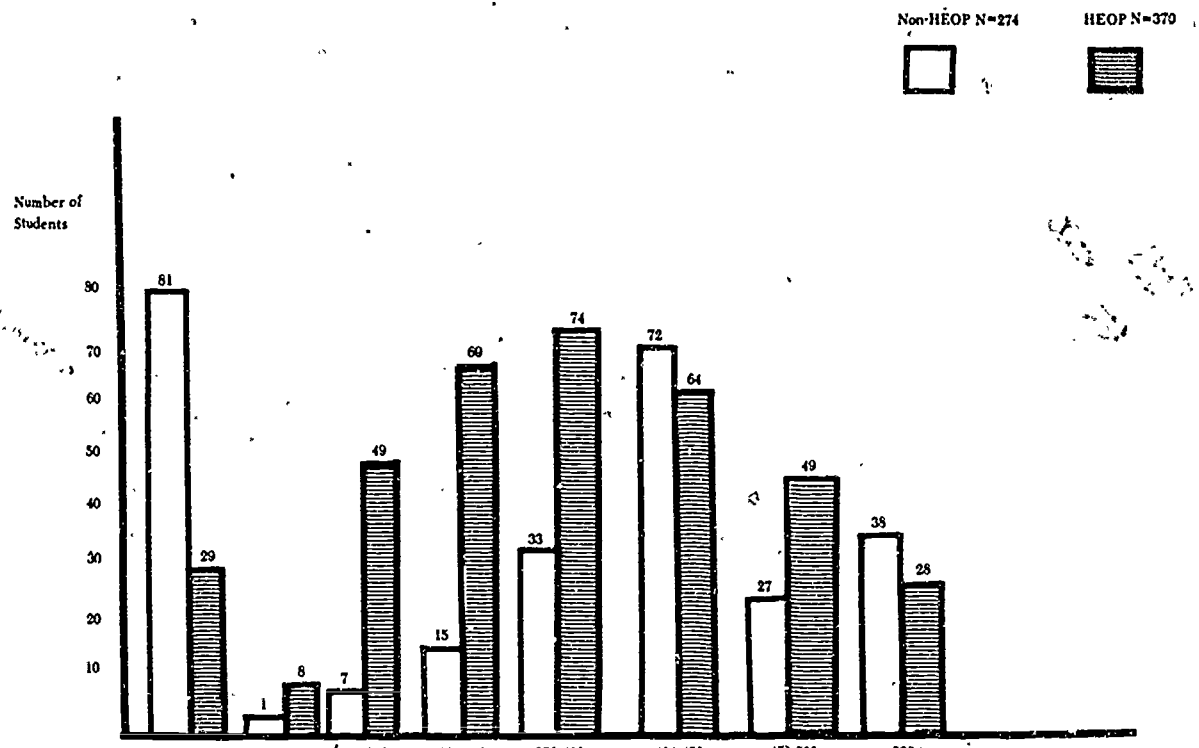

Non-HEOP N=274
HEOP N=370
SAT VERBAL SCORES
FOR ALL SAMPLE STUDENTS
Number of Students
81
29
4
7
3
56
29
66
41
83
74
64
28
52
14
13
Unknown
<250
251-300
301-350
351-400
401-450
451-500
500+
SAT Verbal Scores

Figure C4

SAT MATH SCORES
FOR ALL SAMPLE STUDENTS



Appendix D

PERFORMANCE DATA

(Graphs and Tables)

37

Table D1

MEAN SENIOR GPA BY OVERALL GPA AMONG GRADUATES

Subgroup	Overall Grade Point Average					Total Frequency	Percent of Sample
	1.5–1.9	2.0–2.4	2.5–2.9	3.0–3.4	3.5–4.0		
Non-HEOP	1.1	2.5	3.0	3.2	—	97	35.4
Senior GPA	N=7	N=46	N=37	N=7	N=0		
HEOP	1.3	2.5	2.9	3.3	3.8	165	44.6
Senior GPA	N=4	N=45	N=71	N=28	N=6		

Figure D2

GRADE POINT AVERAGES OF GRADUATES

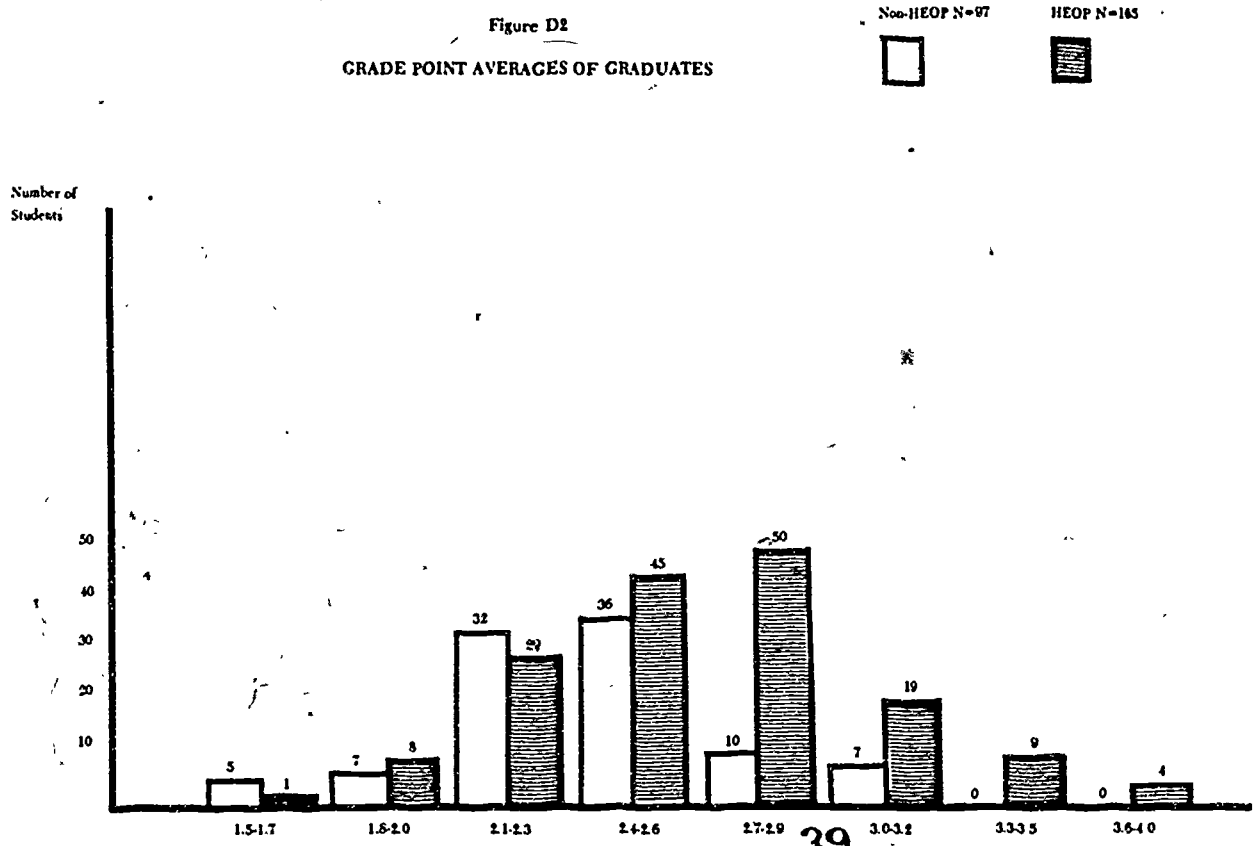
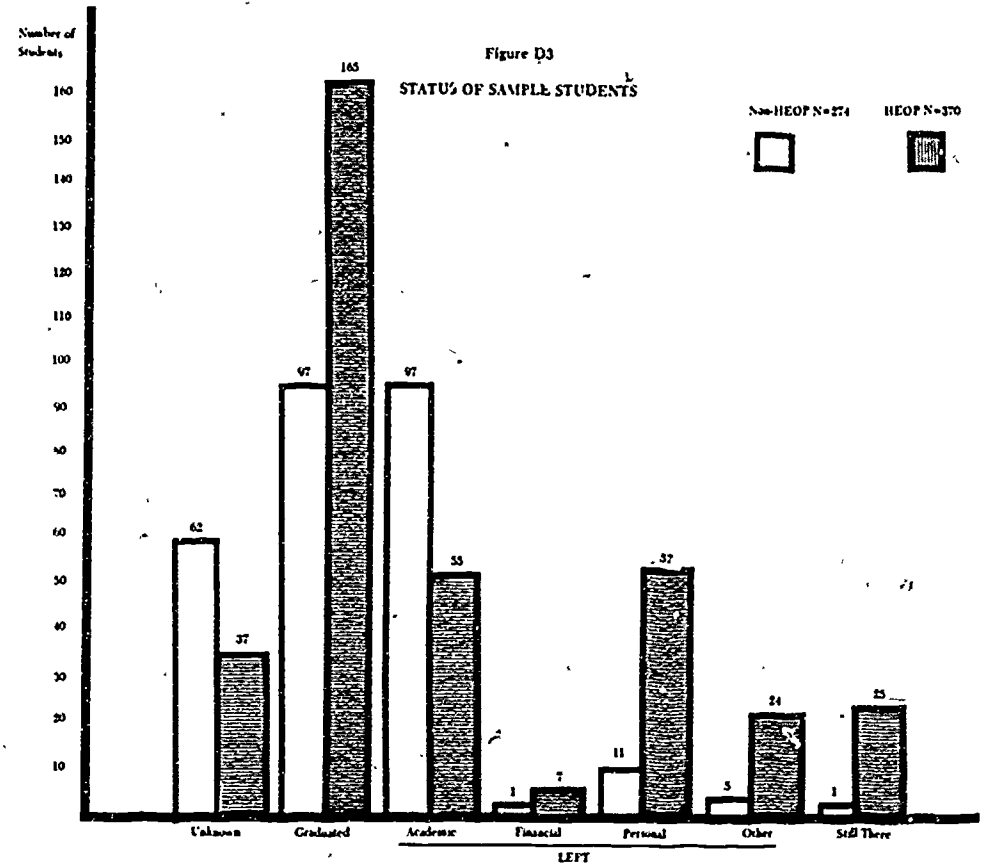


Figure D3

STATUS OF SAMPLE STUDENTS



Appendix E

STATISTICS USED

Table E1

HEOP RESEARCH STUDY RESULTS
N=644

CRITERIA	Subgroup	Mean	t test Value Difference Of Means	Significance P=.01	Interpre-tation
Income	HEOP Non-HEOP	$4,958 4,931	t=0.5749	Difference is not significant	Accept Null Hypothesis
# Dependents	HEOP Non-HEOP	4.15 4.57	t=1.807	Difference is not significant	Accept Null Hypothesis
High School Average	HEOP Non-HEOP	76.6 77.4	t=.3960	Difference is not significant	Accept Null Hypothesis
SAT Verbal	HEOP Non-HEOP	380 408	t=4.278	Difference is significant	Reject Null Hypothesis
SAT Math	HEOP Non-HEOP	387 433	t=6.72	Difference is significant	Reject Null Hypothesis
PERFORMANCE	**Subgroup**	**Mean**	**t test**	**Significance P=.01**	**Interpre-tation**
Overall GPA (All sample students)	HEOP Non-HEOP	2.33 1.79	t=11.65	Difference is significant	Reject Null Hypothesis
Overall GPA (Graduates only)	HEOP Non-HEOP	2.65 2.39	t=5.44	Difference is significant	Reject Null Hypothesis
Senior Year GPA (Graduates only)	HEOP Non-HEOP	2.92 2.69	t=3.79	Difference is significant	Reject Null Hypothesis
PERFORMANCE	**Subgroup**	**Percent**	**X^2**	**Significant P=.01**	**Interpre-tation**
Graduates	HEOP Non-HEOP	51% 15%	X^2=63.12	Significant	Reject Null Hypothesis
Attrition (Academic)	HEOP Non-HEOP	15% 35%	X^2=63.12	Significant	Reject Null Hypothesis

Table E2

SUMMARY STATISTICS
Performance Data

Criteria	Largest Observation	Range	Smallest Observation	Mean	Standard Deviation
Overall GPA (All sample students)					
HEOP	4.0	3.6	0.4	2.33	5.48
Non-HEOP	3.1	3.0	0.1	1.74	7.27
Overall GPA (Graduates only)					
HEOP	3.8	2.3	1.5	2.65	3.98
Non-HEOP	3.1	1.6	1.5	2.39	3.29
Senior GPA (Graduates only)					
HEOP	4.0	2.2	1.8	2.92	4.97
Non-HEOP	3.2	1.9	1.3	2.69	4.38

Table E3

SAMPLE CORRELATION COEFFICIENTS
(For Graduates Only)

Variables	Subgroup	Value of r
GPA vs. High School Average	HEOP	−0.0686
	Non-HEOP	0.20254
SAT-Verbal vs GPA	HEOP	0.18026
	Non-HEOP	0.29886
SAT-Math vs. GPA	HEOP	−0.01669
	Non-HEOP	0.14157
SAT-Verbal vs. High School Average	HEOP	.32132
	Non-HEOP	.40584
SAT-Math vs. High School Average	HEOP	.35369
	Non-HEOP	.25320

Table E4

GPA *vs.* HIGH SCHOOL AVERAGE
Correlation

	Graduates	Overall
HEOP	−0.0686	0.01494
Non-HEOP	0.20254*	0.28260*

* $p < .05$

Interpretation. The relationship between GPA and high school average among HEOP students is statistically insignificant.

Among non-HEOP students it is significant but indicates that only a very small amount of variance is shared between GPA and HSA.

Appendix F

COPIES OF INSTRUMENTS

Study of Disadvantaged Students—1967 and 1970
STUDENT DATA RECORD

Institution Code # (1–8)	Student Code #	Subgroup Code	Income Known?	Income (Nearest $)	Dependents Known?	Number of Dependents	Sex	Marital Status Married?
1 2		3 ☐1. Non-HEOP (1967) ☐2. HEOP (1970)	4 ☐1. Known ☐2. Unknown	5	6 ☐1. Known ☐2. Unknown	7	8 ☐1 Male ☐2 Female ☐0 Unknown	9 ☐1 Yes ☐2 No ☐0 Unknown

Birth Yr. (2-digit)	Ethnicity	HS Average	SAT-Verbal	SAT-Math	RSCQT (RSE)	GRADE POINT AVERAGE (class (year)) Fresh(1)	Soph(2)	Junior(3)	Senior(4)	OVERALL(-)
10	11 ☐1 Black ☐2 Spanish Surnamed ☐3 White ☐4 Oriental ☐5 Other ☐0 Unknown	12	13	14	15	16	17	18	19	20

Major (write out—complete)	CREDIT HOURS (or equivalent) EARNED PER ACADEMIC PERIOD Summer A	Semester 1	Smstr 2	Summ B	Smstr 3	Smstr 4	Summ C	Smstr 5	Smstr 6	Summ D	Smstr 7	Smstr 8	Summ E
21	22	23	24	25	26	27	28	29	30	31	32	33	34

Smstr 9	Smstr 10	Summ F	Smstr 11	Smstr 12	Date of Leaving or Graduation Month	Year	Reason for Leaving	Counter (pre-entered)	SPECIAL NOTATIONS
35	36	37	38	39	40	41	42 ☐1 Graduation ☐2 Academic ☐3 Financial ☐4 Personal ☐5 Other-Known ☐0 Unknown	43 1	

STUDY OF DISADVANTAGED STUDENTS 1967 AND 1970

Areas of inquiry for use during interviews with the chief student personnel administrators of sample institutions.

General objective. To establish the major perceptions, impressions of the administrator concerning the institution's environment/climate during each of the periods 1967 to 1970 and 1970 to 1974, such that inferences may be drawn to describe the degree and types of change observed between the two periods.

Quantitative areas:

1. a. total full-time undergraduate enrollments
   b. total full-time faculty and staff
2. existence and magnitude of student services (e.g., counseling center, financial aid office)
3. existence and magnitude of remedial services (e.g., counseling center, tutorial assistance)
4. admissions criteria and academic profiles of entering freshmen classes
5. a. numbers and proportions of minority group students
   b. numbers and proportions of faculty/staff members
6. residential and other physical facilities of institutions

Qualitative areas:

1. accessibility of faculty and staff by students
2. activity and attitude of student government and other student groups *vis-a-vis* the institution
3. institutional involvement in community services, including campus and local community relationships
4. academic quality of program offerings
5. overall mission of the institutions
6. type(s) of student clientele most typically served by institution
7. How integrated are different types of students in the general campus setting?
8. What types of changes have the nontraditional students brought to the campus?

INSTITUTION _____

Quantitative areas:

	1967	1970
1. a.	_____ #	_____ #
b.	_____ #	_____ #
2. (cc)	_____ Yes _____ No	_____ Yes _____ No
	_____ Size of Descriptor	_____ Size of Descriptor
(FAD)	_____ Yes _____ No	_____ Yes _____ No
	_____ Size of Descriptor	_____ Size of Descriptor
3. (RC)	_____ Yes _____ No	_____ Yes _____ No
	_____ Size of Descriptor	_____ Size of Descriptor
(TA)	_____ Yes _____ No	_____ Yes _____ No
	_____ Size of Descriptor	_____ Size of Descriptor

4. (AC) Comparative scale between 67 and 70

much lower	moderately lower	slightly lower	no change	slightly higher	moderately higher	much higher
(AP)						

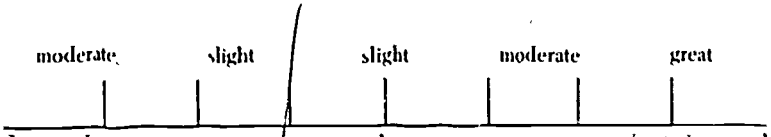
48

		1967		1970	
5	a	(#)	(%)	(#)	(%)
	b.	(#)	(%)	(#)	(%)

6. Descriptors of condition for 67 and 70 (new facilities, new accommodations), comparative scale between 67 and 70

Qualitative areas

1. Comparative scale between 67 and 70

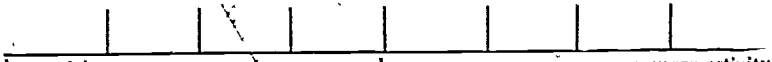


2 Descriptions of activity _____

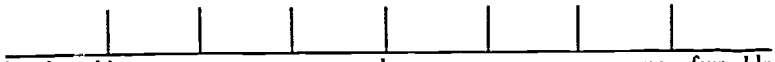
Descriptions of attitude _____

Comparative scale of valence of activity and attitude toward institution

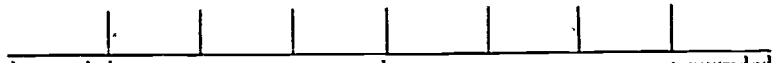
3. Comparative scale of amount of activity in community services.



Comparative scale of "town-gown" relationship *valence*



4. Comparative scale of quality



5. Mission Descriptors_____67 _____70

Change of direction descriptors_____

Judgment on extent of change

_____ Much Change

_____ Moderate Change

_____ Slight Change

_____ No Change

6. Clientele descriptors _____ 67 _____ 70

Change of clientele descriptors _____

Judgment on extent of change

_____ Much Change
_____ Moderate Change
_____ Slight Change
_____ No Change

7. Student involvement in campus _____ 67 _____ 70

Change of involvement descriptors _____

Judgment on extent of change

_____ Much Change
_____ Moderate Change
_____ Slight Change
_____ No Change

8. Changes caused by nontraditional students _____ 67 _____ 70

Judgment of change descriptors

_____ Much Change
_____ Moderate Change
_____ Slight Change
_____ No Change

Appendix G

ANNOTATED BIBLIOGRAPHY

Research Studies of College Programs for Disadvantaged Students

Baehr, R. F. *Project Success.* Final Report, Office of Education, (DHEW) Washington, D.C., December 1969.

Project Success is a remedial program for disadvantaged students in the Chicago City Junior Colleges specializing in individual attention for the student. This report summarized a followup study of the effectiveness of the project. Students who had been in the program for 1 year were assigned to an experimental group (N=67). A control group (N=69) was formed, consisting of students randomly selected from other remedial programs in the city college system. Compared to the control, the experimental group had a significantly greater number of students remaining after 1 year. Project Success students also showed an increase in GPA from the first to the second semester, while the average for the control group remained unchanged.

Bridge, W. T., ed. "Research and Compensatory Education. What are we doing?" Proceedings of a workshop sponsored by The Florida Educational Research Association, Jacksonville, Fla., January 1970.

Evaluated was a special compensatory program for disadvantaged students at Florida Junior Colleges. The program consisted of four courses in remedial reading, word study, and attitude improvement. Following completion of these courses, a group of disadvantaged students was compared with a control group of randomly selected students considered more typical. On indices of GPA, attrition rate and reading skills, the two groups showed no significant differences. Further, seventy percent of the experimental group was performing satisfactorily in university-parallel courses.

Christensen, F. A. "The development of an academic support system for educationally disadvantaged students." Paper presented at American Personnel and Guidance Association Meeting, Atlantic City, N.J. 1971.

The paper describes a program at Park College called the Park Achievement Seminar (PAS). It consists of special courses for the disadvantaged aimed at the development of reading, writing, and speaking skills, critical thinking, and study habits. The author reports that the average GPA for students in the program was equal to the average GPA for the freshman class. He suggests that this could have come about only as a result of the PAS program.

Dispenzieri, A. Kweller, I. and Ginger, S. "An overview of longitudinal findings on a special college program for disadvantaged students." Paper presented at the Annual Meeting of the American Educational Research Association, New York, February 1971.

The paper presents the findings of an evaluation of a program which provided disadvantaged students with remedial courses, tutoring, and counseling. The author reports that when the students in the program took a reduced course load plus two remedial courses, their performance was nearly equal to that of students in the regular program.

Harderoad, F. "Disadvantaged Students. What makes for college survival?" Conference of the American Association for Higher Education, Chicago, Ill., March 16, 1971.

The author briefly describes the special program for the disadvantaged at Northeastern Illinois State College, begun in 1968. Initially, 27 normally inadmissible students were enrolled. By the fall of 1969, 23 students had a "C" or better. In March 1971, 16 were still in college. A second group of 30 students was enrolled in the fall of 1969. At the end of the first semester 25 had acceptable grades. The college considered the program so successful that 97 more disadvantaged students were enrolled in 1970. The author maintains that the success of the program rests in preadmission advising, financial aid, light course loads, academic, vocational, and personal counseling and in tutoring.

Losak, J. and Burns, N. "An evaluation of the Community College Studies Program for the year 1969–1970."
Miami-Dade Junior College, March 1971.

The authors assigned disadvantaged students to one of three groups. The Community College Studies Program, a traditional remedial program, and the regular liberal arts program. After 1 year, the attrition rates and GPA's among the three groups were compared. For CCS students the GPA was highest and the attrition rate was lowest, but neither comparison with the other two groups was significant. It is noted

that among black CCS students the attrition rate was significantly less than for the other two groups.

Maykovich, M. K. *Black, Asian and White Students in the Educational Opportunity Program.* National Center for Educational Research and Development (DHEW/OE) Washington, D.C. 1970.

The purpose of this study was to assess the attitude changes of EOP and non-EOP Asians, blacks, and whites over a 1-year timespan. The author used indices of motivation, type of family relationship, achievement motivation, self-concept, political awareness, and social participation. Sex, age, and race were matched for EOP and non-EOP students. The results indicated that the EOP experience bolstered the self-esteem of all three groups and fostered need achievement in black and white students. There were no other differences between EOP and non-EOP students on any of the other variables. The author points out that although the EOP program diminishes differences between disadvantaged and nondisadvantaged students, it does not entirely eliminate them.

Moen, N. and Giese, C. *Martin Luther King Tutorial Program, University of Minnesota*, 1970, Volume 6, number 4.

The Martin Luther King Tutorial Program provides disadvantaged students with counseling, tutoring, and financial support. The authors state that Martin Luther King students, after having been in the program, showed improved attitudes, stronger motivation, and better study habits.

Ratekin, N. "The effects of two different reading programs on culturally disadvantaged freshman." Paper read at the Meeting of the International Reading Association, Atlantic City, N.J., April 1971.

The author reports a study which evaluated the effects of a 10-week reading skills course and a study skills course upon the subsequent performance of disadvantaged students. Students in the program were compared with similarly disadvantaged students who had not been a part of the program. In terms of GPA and reading test gain scores, both the reading and study skills courses led to superior performance.

Ware, C. and Gold, B. *The Los Angeles City College Peer Counseling Program.* Office of Publications, American Association of Junior Colleges. Washington, D.C. 1971.

The Los Angeles City College system has developed a supportive counseling program for the disadvantaged, using their peers for manpower. The present report evaluates the effectiveness of the program. Three groups were formed, an experimental group, students who had participated as counselees, a control group, students who had been invited to participate, and a second control group, similar students who had been at the college a year before. The retention rates among the three groups were 95 percent, 18 percent, and 12 percent, respectively. Grades were highest among counselees and "invited" counselees. However, it should be noted that college entrance scores for the latter were higher, suggesting the superiority of the counseling program. Among blacks, the retention rate was 100 percent and, furthermore, while their grades were slightly inferior to those of nonblacks, they were significantly better than those of their counterparts of the previous year.

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