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THE RELATIONSHIP OF PLANNED SUPPORTIVE SERVICES FOR MINORITY STUDENTS AND GRADE POINT AVERAGES AT THE OHIO STATE UNIVERSITY

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy in the Graduate School of The Ohio State University

By

Herman Franklin, B. S., M. S.

The Ohio State University

1973

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William D. Dowling
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ACKNOWLEDGEMENTS

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CHAPTER I

INTRODUCTION

During recent years many major universities have operationalized programs designed to increase the possibility of academic success of freshmen minority students specially recruited to their campuses. The programs usually provide services to the newly recruited students which can be classified broadly into one of or a combination of four categories as follows: (a) academic skill building, (b) social skill building, (c) situational skill building, and (d) special services.

Students recruited to the new programs are usually classified as (a) marginal entry students, (b) minority students, (c) inner-city students, (d) disadvantaged students or by some other conspicuous tag. It is the feeling of the investigator that the labels suggest the students are incapable of or will experience difficulty succeeding in a university setting. These connotations can serve as extraneous variables in research and can to some extent skew the results. A recent study at a major university involving disadvantaged college students who received supportive services indicates there was no significant difference in college success of disadvantaged college students who
received supportive services other than financial assistance when compared with a group of disadvantaged college students who also received supportive services in addition to financial assistance but were not specially recruited.¹

Empirical studies of the nature of Hall's study had been virtually impossible in American higher education until recent years. Conducting such studies at integrated institutions was precluded by the limited number of minority students. Researchers found, more often than not, that they simply could not identify enough students belonging to a certain minority group to construct a sound comparative design. This was true whether one proposed to sub-group the minority students to be compared with each other or to group the minority students to be compared with a non-minority group. The advent of special recruitment programs for minority students in the middle and late 60's produced a significant number of minority students who could be involved in noteworthy studies.

Since 1970, supportive services programs designed for specially recruited students have developed to such magnitude that they are now able to be effectively evaluated.

¹John Westley Hall, "The Effects of Supportive Services For Disadvantaged College Students" (unpublished Ph.D. dissertation, Ohio State University, 1971).
The number of minority freshmen entering many historically white universities through special recruitment efforts has increased. These increased numbers of students add validity to studies such as this one.

The results of this study should provide valuable information to universities engaged in the process of planning and developing supportive services program for minority students. Further, the study results should provide data important to The Ohio State University and other universities now operating special recruitment programs who are in the process of evaluating and revising their special efforts.

Historically, The Ohio State University has not engaged in an active campaign to recruit minority students to its campus. The University accepted 112 black students into a special program known as Project 100 for the 1970-71 academic school year. Prior to that effort no concentrated recruitment effort has been made to bring freshmen minorities to the campus.

The best information available from the admissions office indicates that in 1970, prior to the special recruitment effort which brought the Project 100 students to the campus, the Afro-American population represented about 3.0 per cent of the total student body and another 1.2 per cent was composed of American Indians, American born Spanish surnames, and other foreign born students. Therefore the
total minority population represented 4.2 per cent of the total student population. The University admitted approximately 500 minority freshmen students of which approximately 85 per cent were Afro-American, for enrollment in the 1971-72 academic school year. These students were recruited into a program known as Freshmen Foundation.

The Freshmen Foundation special recruitment program sought to make all black graduating seniors of accredited high schools in Ohio aware of The Ohio State University's willingness to admit them, provide financial aid on the basis of need and provide special supportive services to assure retention at the University. The recruitment was done by two staff recruiters who systematically visited high schools across the State of Ohio to talk with students, school administrators and school counselors. Visits were also made to community social agencies such as Model Cities Programs and local offices of Community Action Agencies. Approximately 90-100 high schools and community social agencies were visited in this effort.

With the admission of 500 newly recruited minority students plus the minority students who entered the University by the regular admission procedure the minority population reached a new high - approximately eight per cent (8.0%). Special supportive services were provided to the newly recruited students in the form of: (a) financial aid as
determined by individual or family need, (b) a system of peer counseling, (c) a low student to academic advisor-counselor ratio, (d) free tutoring, (e) specially developed English and Mathematics courses, and (f) the opportunity to participate in reading and study skills classes.

At the end of the first year of operation, many questions were unanswered. This study will provide some of the answers. A new group of minority freshmen students was recruited for the 1972-73 academic school year. There exists a need to investigate the overall effectiveness of the program as organized, the overall performance of the participants, and the impact of the special courses on academic achievement.

The research data were analyzed to determine if there was a significant difference in the academic performance between a specially recruited group and a comparison group of like subjects during their freshmen year at The Ohio State University. The data were studied to determine if there was a relationship between academic achievement of freshmen minority students and the supportive services they received. Essentially data related to two aspects of minority freshmen academic performance were analyzed and compared. They were:

1. Data related to overall academic performance of the Freshmen Foundation and Non-Freshmen Foundation groups for Autumn 1971, Winter 1972, Spring 1972 Quarters and
cumulative quarters performance following enrollment at The Ohio State University for three consecutive quarters.

2. Data related to academic performance of subjects from the Freshmen Foundation group in selected introductory courses which compared their performance with the academic performance of subjects in the Non-Freshmen Foundation group. First, the data were examined in an effort to determine the relationship of special supportive services and college achievement as measured by overall grade point average. Second, data were examined by looking at more discrete measures of academic performance in specific courses.

**Statement of the Problems**

This study was designed to investigate the relationship between the special supportive services received by freshmen minority students at The Ohio State University and academic achievement as measured by overall grade point averages and by performance in selected courses. Subjects in the study were freshman minority students specially recruited to the university Autumn Quarter 1971, from throughout the State of Ohio to participate in the Freshmen Foundation Program.

The Freshmen Foundation Program operates from the premise that minority students entering the university, whose educational and social backgrounds and whose readiness for
the rigors of the academic community differ from the more middle class student, can find a support system tailored to individual needs. The study examined the relationship between the support system and academic achievement.

The problem stated in statistically testable null hypotheses follows:

1. **The Hypotheses**
   
a. There will be no significant difference in the academic performance, as measured by overall grade point average, between freshmen minority students in the Freshmen Foundation special supportive services program and freshmen minority students who did not participate in the Freshmen Foundation Program.

   (1) There will be no significant difference between the Autumn Quarter academic performance, as measured by overall grade point average, of freshmen minority students in the Freshmen Foundation special supportive services program than that of freshmen minority students who did not participate in the Freshmen Foundation Program.

   (2) There will be no significant difference between the Winter Quarter academic performance,
as measured by overall grade point average, of freshmen minority students in the Freshmen Foundation special supportive services program than that of freshmen minority students who did not participate in the Freshmen Foundation Program.

(3) There will be no significant difference between the Spring Quarter academic performance, as measured by overall grade point average, of freshmen minority students in the Freshmen Foundation special supportive services program than that of freshmen minority students who did not participate in the Freshmen Foundation Program.

(4) There will be no significant difference between the Autumn, Winter and Spring Quarters cumulative academic performance, as measured by overall grade point average, of freshmen minority students in the Freshmen Foundation special supportive services program than that of freshmen minority students who did not participate in the Freshmen Foundation Program.

b. There will be no significant difference in the academic performance in selected introductory courses as measured by course grades, between freshmen
minority students in the Freshmen Foundation special supportive services program and freshmen minority students who did not participate in the Freshmen Foundation Program.

(1) There will be no significant difference in the academic performance in English 100, as measured by course grades, between freshmen minority students in the Freshmen Foundation special supportive services program and freshmen minority students who did not participate in the Freshmen Foundation Program.

(2) There will be no significant difference in the academic performance in Biology 100, as measured by course grades, between freshmen minority students in the Freshmen Foundation special supportive services program and freshmen minority students who did not participate in the Freshmen Foundation Program.

(3) There will be no significant difference in the academic performance in History 103, as measured by course grades, between freshmen minority students in the Freshmen Foundation special supportive services program and freshmen minority students who did not participate
in the Freshmen Foundation Program.

(4) There will be no significant difference in the academic performance in Sociology 101, as measured by course grades, between freshmen minority students in the Freshmen Foundation special supportive services program and freshmen minority students who did not participate in the Freshmen Foundation Program.

(5) There will be no significant difference in the academic performance in Psychology 100, as measured by course grades, between freshmen minority students in the Freshmen Foundation special supportive services program and freshmen minority students who did not participate in the Freshmen Foundation Program.

(6) There will be no significant difference in the academic performance in English 100, as measured by course grades, between freshmen minority students in the Freshmen Foundation special supportive services program who took English 193 and freshmen minority students who did not participate in the Freshmen Foundation Program and who did not take English 193.
Population of the Study

The population used in this study consisted of 569 minority students enrolled at The Ohio State University through the special recruitment program known as Freshmen Foundation. The population used were 464 minority students for the Freshmen Foundation group and 105 minority students for a Non-Freshmen Foundation group.

The 464 minority students who composed the Freshmen Foundation group were students who were specially recruited and who entered The Ohio State University Autumn Quarter, 1971, as participants in the Freshmen Foundation Program. This group of students received, in addition to financial aid, intensive personal and academic counseling, specially developed English and mathematics courses, free tutoring, assistance in career planning, assistance in how to study sessions, and a peer counseling relationship.

The 105 minority students who composed the Non-Freshmen Foundation group were students who were specially recruited to the university and who entered The Ohio State University Autumn Quarter, 1971, but did not participate in the Freshmen Foundation Program. This group of students entered the university through what has been referred to as the regular stream. Although most of them received financial aid, they did not receive intensive personal and academic counseling, they did not participate in specially developed classes,
they did not receive free tutoring, and they were not assigned a peer counselor.

The students in the population were residents of Ohio and were graduates of accredited high schools. Therefore, this population met the only two requirements currently needed to be admitted to The Ohio State University under the "open admissions" policy for Ohio residents.

Significance of the Study

There is a paucity of research available on the subject. However there is an abundance of reports and speeches available which have been published that operationally describe special program efforts by major universities to attract minority freshmen to their campuses. There is probably a correlation between the absence of a large number of research studies and the fact that many special recruitment programs have been federally funded with provisions under "Special Terms and Conditions to Grant" which discouraged if not prohibited the conduct of research studies by the operating institution. The U. S. Office of Education has a condition to grants made through its Bureau of Higher Education to support the Trio Project in the Division of Student Assistance which states:
Division of Student Assistance funds may not be used to conduct research on local DSA projects. In addition, any research which is to be conducted on a project or using the students participating in a project must have the written approval of the Project Director, the Advisory Committee, the USOE Regional Office, and the Director of the Division of Student Assistance.

Much of the research already done has involved very small samples, prompting questions about the methods used to conduct some of the studies. There have been reports of some studies being conducted with a two group (primary and comparison) design which had the primary group at one institution and the comparison group at another institution. Needless to say, the possibility of generalizability of the findings are greatly impaired under such research conditions. Hopefully, this study has provided more reliable results by establishing greater internal and external validity within the design.

It is the opinion of the writer that this study is being conducted at a time when certain groups and individuals are not only asking whether minority students who are admitted to the university should be treated any differently than non-minority students but at a time when others are constantly questioning whether or not minority students should be admitted to historically white universities. More basically, others are continuing to debate the age old question whether
certain minorities have the intellect to compete in the "white" university system. Hopefully, this study in addition to its more basic purpose, provides evidence for those who wish to continue debating such trivia.

The Office of Minority Affairs at The Ohio State University expends a large share of its resources for the recruitment and retention of minority students. This study should provide much needed data in assisting decision makers who are planning future programs for minority students as well as for those who are expanding old programs or establishing new ones.

Limitations of the Study

One major limitation of this study lies in the fact that the research was limited to an examination of the academic achievement of an intact group of freshmen minority students at The Ohio State University. The groups were not randomly selected. Therefore, certain assumptions were made. Although the results of the study will be most applicable to minority freshmen students at The Ohio State University the results will be generalizable to other universities.

A second limitation lies in the fact that the investigator did not attempt to locate program dropouts to ascertain their reasons for withdrawing from the university and the Freshmen Foundation Program.
A third limitation was that no attempt was made to study the various sociological and psychological factors and characteristics of the subjects. There is currently a proposed study being discussed which will investigate sociological characteristics as a retardant to academic success with a sample from the population used in this study.

A fourth limitation lies in the fact that the data used were collected on only the freshmen academic year performance. Many suggest that students tend to improve in academic performance with tenure in a university setting.

A fifth limitation was that no attempt was made to establish a control group of Freshmen Foundation students who did not use the available supportive services.

A sixth limitation was that no effort was made to establish the extent to which members of the Freshmen Foundation group did or did not use available supportive services. The assumption was made that students in the Freshmen Foundation group did receive the supportive services which were designed for them. It must be recognized that participation in the supportive services program was voluntary on the part of the students.

A seventh limitation was that ACT scores, Grade Point Averages and course grades were the only variables examined during the conduct of the study.
Definition of Terms

In order to facilitate a clearer understanding of the study, the following terms have been defined. There did not appear to be a need to give special attention to other terms which are presented in the text.

1. **Minority Student:** For the purpose of this study, minority student is defined in terms of the definition utilized by the administrators of the Freshmen Foundation special recruitment program. A student was designated a minority group member if he belonged to one of the following racial/ethnic groups:
   a. Afro-American (Black)
   b. Appalachian White
   c. American Indian
   d. Mexican-American
   e. Puerto Rican
   f. Oriental

According to the composition of the Freshmen Foundation group, "minority student" in 85 per cent of the cases would be categorized as black; in 13 per cent of the cases, as "Appalachian" white, and in two per cent of the cases, as one of the four remaining racial/ethnic groups.
2. **Special Supportive Services**: For the purpose of this study, any support service provided by the University, at no cost to the student, to insure academic success, and which are not specifically available to the general student body shall be classified as special supportive services.

a. **Financial Aid.** Students are awarded funds to attend college according to individual or family need from one or a combination of two or more of the following:

(1) Educational Opportunity Grant (EOG).
(2) Ohio Instructional Grant (OIG).
(3) National Defense Student Loan (NDSL).
(4) Ohio State Scholarship.
(5) College Work-Study Program (CW-SP).

b. **Special Courses.** Special courses added to the freshmen curriculum which were designed with the needs of the Freshmen Foundation student in mind.

(1) **Psychology 120.** A 3 hour credit course offered to survey theories and practices designed to improve higher level skills in reading, perception, learning, and adjustment.
(2) Reading and Study Skills Classes. A non-credit experience of individualized and small group instruction in the mechanics of developing reading and study skills which allow each participant to advance at his own rate of reading, perception, learning, and adjustment.

(3) English 193. A developmental basic English course which provides a bridge between the students deficiencies and the requirements of English 100. Five credits are accorded on a "S"/"U" basis.

(4) Mathematics 194. A 5 hour credit course in basic math which is usually followed by Math 101-A for students needing continuing developmental assistance to bridge the gap between weak high school mathematics backgrounds and other required college mathematics course(s).

c. Tutoring. A system of virtually unlimited free individual tutoring for any university course offering in which the Freshmen Foundation student is enrolled.
d. **Introductory Level Courses.** Generally the 100 level courses listed by many of the various departments as prerequisite to other course listings.

e. **Academic Advisor-Counselor.** For the purpose of this study an academic advisor-counselor is one who is primarily concerned with:

1. Assisting students in planning an academic course of study tailored to his need and predicted ability.

2. Developing a counseling relationship and an atmosphere in which can develop a mutual trust in order that effective personal, group, and peer counseling may become a functional reality.

3. Generally assisting the new student negotiate the university system.

**Organization of the Remainder of this Report**

This chapter contains several sections including: (1) An introduction to the investigative study, (2) A statement of the problem, (3) The significance of the study, (4) Limitations of the study, and (5) Definition of terms.

Chapter II will review selected literature that relates to the investigation. Chapter III will discuss
specifically the design of the study, instrumentation, method of data gathering, and statistical procedures to be used in the study. Chapter IV will report the results obtained from statistical analysis of the data generated by the investigation. Chapter V presents the summary and conclusions of the study and sets forth implication for future research.
CHAPTER II

REVIEW OF LITERATURE

This chapter reviews selected literature that is related to the investigation. The writer learned early in his search for relevant literature that there was a paucity of significant studies which dealt specifically with the subject of minority student success in historically white universities.

Although there has been much written describing programs in operation at various universities designed to increase the number of their minority student enrollment, the writer has found very few studies which have attempted to analyze and evaluate the results of such programs.

In 1971 a study was designed to investigate the effects of supportive services on academic achievement for disadvantaged college students. Contrary to what might have been expected, the study revealed that the grade point average of disadvantaged college students who received supportive services other than financial assistance were not significantly higher than the grade point averages of disadvantaged college students receiving only financial assistance Autumn and Winter Quarters. The findings further
revealed a significant difference between the two groups in favor of the disadvantaged college students who received supportive services for the Spring Quarter.\(^1\)

Egerton\(^2\) conducted a survey of 154 predominantly white, four year colleges and universities to determine what they were doing to make higher education available to low income and minority group students who lacked the credentials but not the quality to succeed in college. Of the 154 institutions surveyed, 84 reported some involvement in programs for "high risk" students. The approach to programs varied with individual institutions. Howard University had experienced 80-85 per cent of their "gambles" graduating with their class. On the other hand New York University's experimental program of 60 "high risks" had only 15 of the original 60 students still enrolled after one year. Information provided in Egerton's article suggested that an insufficient supportive services program was the reason for the low retention rate of students in the New York University program.

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\(^1\) John Westley Hall, "The Effects of Supportive Services For Disadvantaged College Students" (unpublished Ph.D. dissertation, Ohio State University,' 1971), pp. 61-63.

The 1971 findings by Hall seem to be consistent with the findings by Egerton. Although Hall did not find a significant difference in achievement between his two study groups, the retention rate was very high. On the basis of the low retention rate of students in the New York University program, it may be inferred that the high student retention reported by Hall was a direct result of the supportive services received.

Meister reported on a pilot remedial program conducted by the Bronx Community College to determine if special guidance in English and Mathematics would improve the academic potential of poor achievers in high school who are victims of "disabling socio-educational factors." The project known as "Operation Second Chance" was a pre-college enrichment studies program which provided five months of tuition free guidance and instruction four nights a week. A total of 60 students were involved. Although the number was, "too small for definitive statistical interpretations," it was concluded that, "thousands of high school graduates could profit significantly from college after pre-enrichment experiences."

In 1965, Bush in an interim report of a "risk recruiting" project to seek out black students not normally qualified for admission to Antioch or who were not college bound reported, "there was no shortage of Negro students with whom 'bridge-building' activities were successful." The program involved early recruitment, pre-entry counseling, financial aid, and research on effective teaching methods for this group of students. Students were selected from Chicago, St. Louis, Philadelphia and Southwestern Ohio.

Many would agree that being minority, particularly black, in America gives rise to a life of unique circumstances. Logically, talent developed under such conditions may not have a "sameness" of character as that defined by society at large. If this is true then new criteria are needed for the measurement of talent.

Davis and Welty reported on a study which was to offer new criteria to measure talent. Thirty-nine black students were admitted to Oberlin College, 18 of whom were selected by the regular college procedure; 14 were selected by the

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regular procedure as well as a new selection procedure; and seven black students were selected by the new selection procedure but were rejected by the regular procedure. At the end of the first semester, there was no appreciable difference in the distribution of grade point averages between the three groups, even though the "new" group differed greatly in academic background.

The findings of the Davis and Welty study point clearly to the need to change many college programs and admissions procedures to capitalize upon positive experiences of minorities. In 1970, Davis\(^6\) suggested that until this is done, "we are coping out." He rejects the compensatory education model which simply stated, holds that since school curricula and policies have served the needs of the majority of the people for many years, they are basically sound and ought not be changed. The model suggests that if minority students, for instance, cannot learn well in the public schools and later in college, it is they who are at fault and they must change. Davis feels, "as long as we advocate new programs based upon the compensatory model, we are insisting that the people change to fit the program - even though it was clearly not designed with them in mind."

Froe recognized the difficulty of the task of identifying the needs of the college population termed disadvantaged and of examining them as they might relate to educational planning. In view of the great diversity of norms and values in various student subcultures in institutions, Froe suggested three processes which must be involved in planning to meet the needs of the disadvantaged college youth. They are:

1. The study of the characteristics of the learner which are related to academic achievement,
2. Study and analyze the learning environment, and
3. The examination of the congruence between the learning environment and the learner.

He expressed the need for a cycle of planning, evaluation and replanning.\(^7\)

Bindman\(^8\) conducted a study of 154 black male undergraduates attending a large mid-western state university. His findings indicated only 30 per cent had pre-college test scores (indicated by the American College Test of the School of Ability Test) above the 50th percentile of the population of the specific college of their choice within

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\(^7\)Otis D. Froe, "Educational Planning For Disadvantaged College Youth," Journal of Negro Education, 33 (Summer 1964), pp. 290-303.

the university. Contrary to expectation, differences in the degree of integration in the black subjects' high school, socio-economic background, and high school rank did not produce significant differences in academic preparation. Bindman feels these findings are significant for future program and policy planning in an effort to rectify the unequal preparation of black students for college. He suggests, "the doctrine of 'race consciousness' may be what is required to aid educationally disadvantaged black students until substantive changes are made in their academic preparation."

Research findings do not support the thesis that "crash courses" in study skills for college students will correct the problems produced by poor habits developed in high school. Berryhill investigated the relative effectiveness of three teaching methods in a "How-To-Study" course for college freshmen. He concluded that; (1) it is questionable to expect short-term "How-To-Study" courses to produce significant changes in grade point averages or academic failure, and (2) it is reasonable to expect short-term "How-To-Study" courses to be effective in producing significant changes in

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study habits and attitudes as measured by the survey of Study Habits and Attitudes (SSHA).

Moore\textsuperscript{10} discussed the importance of the counselor in programs for students labeled as high risk, educationally disadvantaged, marginal, remedial or low-achieving. He had observed the humiliation of the marginal student who is poorly evaluated but indiscriminately assigned to remedial courses. Moore saw the counselor as a specialist. In addition to bringing to the developmental program the special preparation required of the counseling profession and a knowledge of his function as counselor, he must take an active part in the learning process. In short, the counselor is an educator, an "emerging giant in remedial education."

In 1968 Thelen made several generalizations concerning counseling the high risk student. She generalized that:

1. "The high-risk community college student has accumulated a number of deficiencies by the time he enrolls,

2. Research on counselor effectiveness with the high-risk student from four-year institutions is scant, and

3. Research from community colleges is almost nonexistent.

The research which is available from four-year institutions for the most part, shows a negative counselor effectiveness.\textsuperscript{11}

Moore\textsuperscript{12} also discussed what he termed mounting evidence that in the community college the counselor is the pivotal staff member in the remedial program. He suggests that around the counselor revolve the functions of teaching, learning, scheduling, and program planning. The counselor acts as the liaison person between the remedial division or department and the other divisions within the institution, and he is often a contact between business, industry, and much of the community as a whole. The counselor represents the core of any program designed to assist the academically unsuccessful student. Additionally, Moore feels that sometimes the counselor assistance is more effective in helping students improve than the course work in which the students enroll.

Moore viewed the counselor's job as sometimes more difficult in the basic or developmental program in a community college setting than it is in a four-year institution. According to Moore several reasons account for the


\textsuperscript{12}Moore, Against The Odds, p. 86.
difficulty:

First, the counselor is expected to work with predicted failures. Second, the counselor does not have the support of the entire community college faculty that the counselor could expect to get from a university faculty because of the nature of the students being served. Third, there is usually a lack of financial support for the remedial program. Fourth, as a rule, the developmental program and the personnel who serve it are "squatters." Fifth, the community college is a commuter college and the students work on either full-time or part-time jobs and do not develop the school spirit that is usually found in four-year institutions. Sixth, a sizable number of the marginal students do not plan to continue their education beyond two years even if they are able. Further, because of the open-door policy, there is, a growing black student population. Their presence with regard to the current emphasis on black awareness and black activity is a new influence in the community college. This influence can cause tension between racial groups.13

Without exception, each of the difficulties discussed by Moore as unique to the community college are relevant and real to four-year institutions which have begun special recruitment programs to attract high-risk students to their campuses. The case of the importance of the counselor in any developmental or remedial program can be build without much difficulty whether it is in a community college or a four-year institution. The ingredients are the same.

13Ibid., p. 86-87.
De Weese found that where high-risk students are involved group counseling was more effective in improving academic achievement than a remedial reading course.

There are few problems in the field of education that are as complex as the problem of cultural deprivation. Educational policy makers, curriculum specialists, teachers, counselors, guidance workers, and administrators must develop an appreciation of the many ways in which the social problems of our society bear directly on the development of the child and adolescent and influence the interaction between students and public school and later college if they are to adequately attack and resolve these educational problems. In 1964 Bloom concluded that the black child who is culturally deprived has all the learning problems of other culturally deprived children. However, in addition to these problems he suffers from the special problems created by the prejudices and attitudes of others. It is when the negative attitudes and feelings of these individuals are translated into institutional practices that minority students most despair and the need for developmental

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educational programs are dictated.

In a 1966 United States Office of Education Survey, Equality of Educational Opportunity, (Coleman Report) findings were cited which are factors in the public school relating significantly to achievement among minority groups and the disadvantaged. The following findings were taken from the Coleman Report:

The school achievement of minority pupils was found to be more dependent on the schools they attended than was the achievement of majority pupils. Improvement in school quality is crucial to minority pupils if they are to succeed.

The study of the school characteristics that account for variation in achievement between majority and minority, Negro and white, in North and South, brought out the following:

a. Facilities and the curriculum of the school accounted for relatively little variation in pupil achievement as measured by standardized tests.

b. The quality of teachers showed a stronger relationship to pupil achievement than did other variables. Furthermore, teacher quality had a progressively greater impact at the higher grades and was a more crucial factor for the minority groups than for the majority.

c. Pupil achievement was found to be strongly related to the educational backgrounds and aspirations of other students in the school.

d. On pupil-attitude factor—the extent to which an individual feels that he has some control over his destiny—appeared to have a stronger relationship to achievement than
did all the school factors together.\textsuperscript{16}

Kvaraceus\textsuperscript{17} did not view schools as a single entity geared to solve the deep and complex problems that surround the disadvantaged learner and his family. He believed that fragmented and compensatory efforts to repair and rehabilitate could be temporarily justified in that many youngsters must be saved now; but unless the school's efforts are tied into a coordinated community-action program that strike at the cause of deprivation, little lasting benefit could be achieved through dike-holding operations. For Kvaraceus this means revamping rather than revising curriculums to meet special problems of the deprived child as well as for other children. It means adaptation of academic content and methods and improved selection and training of teachers.

In 1967, Hillson\textsuperscript{18} described a large-scale compensatory education program operating in the New York City schools called the College Bound Program. It had its origin in

\begin{flushright}

\textsuperscript{17}William C. Kvaraceus, "Advantaging the Disadvantaged in the Secondary School: Some Problems and Guidance Practices" (Clark University, 1970).

\end{flushright}
the Demonstration Guidance Project which was to demonstrate that, given additional assistance and resources, the graduation rate in selected schools would increase significantly.

Passow\(^1\), in 1970, reported that an evaluation of the College Bound Program during the first year of operation showed the students to be below national levels, particularly in the upper ranges, and especially in mathematics. However, their day-to-day scholastic work tended to be better than would have been expected from their standardized test scores. A clear majority of the College Bound group exceeded a minimum grade of 70 in most subjects. On the state-wide Regents examinations, the percentage passing was higher than the results for the city as a whole, but still low in some areas. A control group was set up with students matched as closely as possible. Generally, the College Bound pupils surpassed the control group in most areas, although the differences were not always statistically significant.

From this review of literature there seems to be justification for providing special supportive services to minority students recruited to historically all white universities. Further, the research tends to support the thesis

that minority students, once admitted to the University, achieve as well as other students who are normally admitted without difficulty.

Summary

On the basis of the literature reviewed, it was concluded that: (1) "high risk" students, once admitted to institutions of higher learning, perform sufficiently well to remain at the university; (2) supportive services programs are more effective when provided on an intensive and sustained basis as opposed to "crash" treatment programs; (3) "high-risk" students who received special supportive services tended to have a higher percentage retention rate at the university than did their student counterpart who did not receive supportive services; (4) it may be unreasonable to expect college supportive services programs to correct the ills of several years of background experience; (5) although supportive services programs appeared to have made a difference in college achievement, more often than not, students receiving supportive services did not achieve significantly higher than students who did not receive supportive services; and (6) there is a need for much scientific research dealing with the problems of high risk students in higher education.
CHAPTER III

DESIGN, PROCEDURES AND METHODOLOGY

This chapter presents a discussion of the overall design of the study. Procedures in selecting members of the Freshmen Foundation group and the Non-Freshmen Foundation group are discussed. The instruments employed, methods of gathering data and statistical operations for data analysis are presented.

Design of the Study

Prior to initiating the study and the collection of data, the investigator met with Dr. William J. Holloway, Vice Provost for Minority Affairs, The Ohio State University to secure permission to conduct the study since it would be necessary to use official student academic records. The investigator was directed to confer with Dr. Gary E. Young, Director of Program Development and Research, Office of Minority Affairs, to determine probable areas in which research could be conducted that would be advantageous in providing a framework within which the Freshmen Foundation Program could be improved administratively, organizationally, or operationally. Dr. Young was most enthusiastic about a study in the area of academic performance. His enthusiasm
originated in the fact that the Freshmen Foundation Program was organized to provide a system of supportive services but its relationship to student achievement had not been tested. The investigator agreed to test the relationship by examining the difference between the means of two groups of specially recruited students, one of which received special supportive services and the other group which did not receive special supportive services.

In an effort to investigate the relationship between the supportive services which minority students received at The Ohio State University and the subsequent academic achievement of those students as measured by grade point average, two groups were identified. The following data relevant to the investigation were gathered for each member of the two groups.

1. Autumn Quarter (1971) Grade Point Average
2. Winter Quarter (1972) Grade Point Average
3. Spring Quarter (1972) Grade Point Average
4. Cumulative Autumn (1971), Winter (1972), and Spring (1972) Quarters Grade Point Averages
5. American College Test Scores (ACT)
   a. English Standard Score
   b. Math Standard Score
   c. Social Science Standard Score
   d. Natural Science Standard Score
e. Composite Score

6. Course grade for selected college courses.

The two groups used in the investigation were identified in the following manner.

**Freshmen Foundation Group**

A total of 464 minority students composed the Freshmen Foundation group. The 464 students were obtained by selecting from the 569 minority students, who were recruited through the Freshmen Foundation Special Recruitment Program, all students who could be identified by the Freshmen Foundation staff and to whom special supportive services were provided after school began Autumn Quarter 1971. To assure obtaining the largest possible number of subjects the records on file at the Registrar's Office, Admissions Office and Financial Aids Office were searched. Only students for whom ACT scores and a grade point average for three consecutive quarters were available were included in the statistical analysis. In each case when data are presented in Chapter IV the number of subjects will be identified.

**Non-Freshmen Foundation Group**

A total of 105 minority students composed the Non-Freshmen Foundation group. The 105 students were obtained by selecting from the 569 minority students, recruited through the Freshmen Foundation Special Recruitment Program, all to whom
Filmed as received
without page(s) 39

UNIVERSITY MICROFILMS.
American College Test (ACT)

The American College Test gathers information about the prospective college student. It is a national student assessment program and is administered on five different test dates during each calendar year, at which time students across the United States who typically are high school seniors and who plan to attend college may take the test for a small fee.

The ACT consists of two parts. The first part is essentially a student assessment section and consists of the following:

1. A four section battery of tests of educational development and academic potential.
2. Self reported high school grades in English, mathematics, social studies and natural science.
3. A student profile section designed to obtain information about educational and economic background, racial/ethnic origin, special needs, special interests, and potential for achievement in non-academic areas.

The second part of the ACT is the four-section battery of tests of educational development. A description of each component of the second part is given below.

The English Usage Test is a 75 item, 50 minute test of the essentials of effective writing which emphasizes clarity of expression rather than recall of grammar rules. Four
prose passages make up this test's format. Four alternatives are given as probable changes that would improve certain sections of the original passage. The student must decide and choose the most correct alternative.

The Mathematics Usage Test is a 40 item, 50 minute test which purports to measure mathematical reasoning ability. The test items are to assess quantitative reasoning power as opposed to the memorization of formulas or computational skills. Test items are of two primary types: the first, verbal problems that present practical situations requiring the solution of quantitative problems; the second, practical exercises in arithmetic, algebra, and geometry. Each item poses a mathematical question and five alternative answers. The student must decide which alternative is correct.

The Social Studies Reading Test is a 52 item, 35 minute test that purports to measure problem solving skills required in social studies. It is sub-divided into two types of questions. The first type of question includes four reading passages designed to test reading comprehension skills, the ability to draw inferences, the ability to draw an analogy between ideas expressed in the passage to other situations, the ability to arrive at conclusions from experimental or graphic data, and the ability to recognize a author's bias and style. The second type of question surveys general information taught in high school social studies courses. All
items are multiple choice with four alternatives from which the correct responses is to be chosen.

The Natural Science Reading Test is a 52 item, 35 minute test in which the items are multiple choice with four alternative answers. There are two types of test items. The first type consists of passages which discuss various scientific topics. The student is required to interpret and evaluate scientific materials. The student is expected to understand an experiment's purpose, see the relationship between purpose and hypotheses and between hypotheses, and to identify possible generalizations that can correctly be made on the basis of the experiment. Other questions test the ability to recall subject matter from high school science courses.

For each of the four test sections discussed above, results are reported in terms of a standard score. The range of standard scores is 1 (low) to 36 (high). An average of the standard scores on the four sub-tests discussed above is computed for each student and reported as a fifth, composite score.

Student Locator Grade Report for University College

The Student Locator Grade Report is a computerized print-out prepared for University College. University College is a non-degree granting college for all freshmen and sophomores who have not declared a major field of study at The Ohio
State University. Generally all freshmen must remain in University College for two full-time quarters. From the third to the sixth quarters of full-time enrollment, the student may choose to remain in University College or transfer to a degree-granting college. During the sixth quarter of full-time study, he is required to declare a major field of study.

At the end of each quarter, the Student Locator Grade Report for University College provides an alphabetical listing of all students in University College, showing, among other information, the following important data:

1. Rank in college (freshmen or sophomore).
2. Earned hours for the quarter.
3. Cumulative earned hours.
4. Quarter grade-point average.
5. Cumulative grade-point average.
6. Quarter class rank, indicating rank order placement in relation to all other freshmen or sophomores, whichever is the appropriate comparison group.
7. Quarter college rank, indicating rank order placement in relation to all University College students.
8. Cumulative class rank, following the same format as quarter college rankings.

**Student Grade Sheet**

The Student Grade Sheet is a computerized print-out
prepared for distribution to the enrolled student, his parent or guardian, the college in which he is enrolled and the registrar. At the end of each quarter a Student Grade Sheet is generated for each part-time and full-time enrolled student, showing, among other information, the following important data:

1. Name and course number of each course in which student enrolled.
2. Number of course hours in which student enrolled.
3. Letter grade for each course in which student enrolled and completed (successfully or unsuccessfully).
4. Grade points earned for each course in which student enrolled and completed (successfully or unsuccessfully). Grade points are determined by multiplying the course credit hours times the number of quality points earned by letter grade, i.e., A=4, B=3, C=2, D=1, E=0.

Method of Collecting Data

The data used in the study are the student's quarter grades and quarter grade point averages. There was a need to look at individual course grades as well as cumulative quarter grade point averages as the various hypotheses
were tested.

The grade point average for students at The Ohio State University is determined by finding the mean of individual grades (to three decimal places) on the basis of the following grading format:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
<th>Number of Quality Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Highest quality of work</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>Second highest quality of work</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>Third highest quality of work</td>
<td>2</td>
</tr>
<tr>
<td>D</td>
<td>Lowest quality of work</td>
<td>1</td>
</tr>
<tr>
<td>E</td>
<td>Failing work</td>
<td>0</td>
</tr>
</tbody>
</table>

Therefore, a student earning grades of A, B, A, B, for four courses completed in a given quarter would earn a quarter grade point average of 3.500.

A data gathering system was established to create a data bank. In view of the need for additional research studies relative to the total group of minority students recruited through the Freshmen Foundation Special Recruitment Program, procedures for gathering data reflect the desire of the Office of Minority Affairs to establish a data bank of significant size. The data necessary for this study were drawn from the data bank while other significant data compiled will be available for other studies.
At the time the data bank was being created a print-out program was developed in cooperation with The Ohio State University Evaluation Center to facilitate access to information in the data bank. The print-out program required the establishment of a sorting system as well as a print-out format to enable the sorting and printing out of the desired information on command. The system makes possible the retrieval of necessary data to provide answers to the hypotheses as postulated for this study.

**Statistical Analysis**

Analysis of covariance was used to analyze the data. Roscoe states:

> The success of an experiment and the ability to detect significant differences in the criterion variable are often determined by the ability of the investigator to control one or more variables that influence the criterion . . . The use of analysis of covariance ordinarily involves a pretest (the variable to be controlled) and a posttest (the criterion) that are known to be correlated.¹

The analysis of covariance is a blend of regression and the analysis of variance, which permits statistical rather than experimental control of variables being controlled.

The grade point average for the Freshmen Foundation and Non-Freshmen Foundation groups was adjusted for the covariate,

ACT composite score. In cases where the performance in specific courses were observed between and within the Freshmen Foundation and Non-Freshmen Foundation groups the mean grade performance was adjusted for the covariate, ACT standard score relevant to the subject area (i.e., English, math, social science or natural science). This procedure was used to equate the Freshmen Foundation and Non-Freshmen Foundation groups on the ability variable.

Kerlinger observed:

"It is frequently necessary to study groups as they are, subjects cannot be matched or assigned at random. Analysis of covariance comes to the investigator's assistance..." Analysis of covariance is a form of analysis of variance that tests the significance of the difference between means of final experimental data by taking into account and adjusting initial differences in the data. That is, the analysis of covariance analyzes the difference between experimental groups on Y after taking into account either initial differences in the Y measures or differences in some pertinent independent variable."

Edwards observed, "if the results obtained with the analysis of covariance are to have a clear interpretation, then it is essential that the X measures be uninfluenced by the particular treatment to which the subjects are assigned."

It should be pointed out that this is an ex post facto

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study. However, OSU official student records were available to the investigator.
CHAPTER IV

ANALYSIS AND RESULTS

This chapter is composed of the results of statistical analysis of the data. Findings are presented for each null hypothesis stated in Chapter I. Each null hypothesis is restated and precedes the presentation of findings.

The primary purpose of this study was to evaluate the supportive services program for minority students at The Ohio State University. The investigation focused on overall grade point average and performance in selected courses by minority students specially recruited to attend The Ohio State University. The study proposed to determine if there was a relationship between the supportive services minority students received and their academic performance.

Grade Point Average Comparisons of the Freshmen Foundation and Non-Freshmen Foundation Groups

The first group of null hypotheses tested dealt individually with Autumn (1971), Winter (1972), and Spring (1972) Quarters Grade Point Average after which the Grade Point Average for all three quarters were collectively examined. The second group of null hypotheses tested dealt
with performance by the subjects in selected college courses.

The first null hypothesis examined was stated:

\[ H_0 \]

1.a.(1): There will be no significant difference between the Autumn Quarter academic performance, as measured by overall grade point average, of freshmen minority students in the Freshmen Foundation special supportive services program than that of freshmen minority students who did not participate in the Freshmen Foundation Program.

To test the null hypothesis that there would be no significant difference between the two groups for Autumn Quarter (1971), analysis of covariance was used. Summary data are presented in Table 1, and analysis of covariance in Table 2. The .05 level of significance was the point at which the hypothesis would be rejected.

**TABLE 1**

GRADE POINT AVERAGES-AUTUMN QUARTER 1971 FOR FRESHMEN FOUNDATION STUDENTS AND NON-FRESHMEN FOUNDATION STUDENTS

<table>
<thead>
<tr>
<th></th>
<th>Non-Freshmen Foundation Group</th>
<th>Freshmen Foundation Group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT (mean)</td>
<td>18.034</td>
<td>14.961</td>
<td>15.600</td>
</tr>
<tr>
<td>GPA (unadjusted)</td>
<td>2.313</td>
<td>2.313</td>
<td>2.331</td>
</tr>
<tr>
<td>GPA (adjusted)</td>
<td>2.314</td>
<td>2.213</td>
<td>2.234</td>
</tr>
<tr>
<td>n</td>
<td>88</td>
<td>335</td>
<td>423</td>
</tr>
</tbody>
</table>

Freshmen Foundation Group mean GPA lower than Non-Freshmen Foundation Group mean GPA by 0.101
The Freshmen Foundation group mean GPA was lower than the Non-Freshmen Foundation Group mean GPA by 0.101 after being adjusted for the covariate ACT. The difference between the two groups unadjusted mean GPA was 0.103.

**TABLE 2**

**ANALYSIS OF COVARIANCE—AUTUMN QUARTER 1971 GRADE POINT AVERAGES FOR FRESHMEN FOUNDATION STUDENTS AND NON-FRESHMEN FOUNDATION STUDENTS**

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>ms</th>
<th>F*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>0.039</td>
<td>1</td>
<td>0.039</td>
<td>0.520</td>
</tr>
<tr>
<td>Within Groups</td>
<td>31.500</td>
<td>420</td>
<td>0.075</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>31.539</td>
<td>421</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

An F Ratio of F.05 (1, 420) = 3.84
(Critical value of F with 1 and 420 degrees of freedom)
F observed is lower than F.05 Ratio of F critical value

Since F observed is not greater than F.05 Ratio of F critical value (3.84), the null hypothesis as stated cannot be rejected. There was no significant difference between Autumn Quarter GPA for the Non-Freshmen Foundation group and the Freshmen Foundation group.

The null hypothesis concerned with Winter Quarter academic performance was stated:

\[ H_0 \]

1.a.(2): There will be no significant difference
between Winter Quarter academic performance, as measured by overall grade point average of freshmen minority students in the Freshmen Foundation special supportive services program who did not participate in the Freshmen Foundation Program.

To test the null hypothesis that there would be no significant difference between the two groups for Winter Quarter (1972), analysis of covariance was used. Summary data are presented in Table 3, and analysis of covariance in Table 4. The .05 level of significance was the point at which the hypothesis would be rejected.

**TABLE 3**

<table>
<thead>
<tr>
<th></th>
<th>Non-Freshmen Foundation Group</th>
<th>Freshmen Foundation Group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT (mean)</td>
<td>18.034</td>
<td>14.961</td>
<td>15.600</td>
</tr>
<tr>
<td>GPA (unadjusted)</td>
<td>2.358</td>
<td>2.152</td>
<td>2.194</td>
</tr>
<tr>
<td>GPA (adjusted)</td>
<td>2.254</td>
<td>2.057</td>
<td>2.098</td>
</tr>
<tr>
<td>n</td>
<td>88</td>
<td>335</td>
<td>423</td>
</tr>
</tbody>
</table>

Experimental Group mean GPA lower than Control Group mean GPA by 0.197

The Freshmen Foundation group mean GPA was lower than the Non-Freshmen Foundation group mean GPA by 0.197 after being adjusted for the covariate ACT. The difference
between the two groups unadjusted mean GPA was 0.206.

**TABLE 4**

ANALYSIS OF COVARIANCE-AUTUMN QUARTER 1971 GRADE POINT AVERAGES FOR FRESHMEN FOUNDATION STUDENTS AND NON-FRESHMEN FOUNDATION STUDENTS

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>ms</th>
<th>F*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups (adjusted)</td>
<td>0.327</td>
<td>1</td>
<td>0.327</td>
<td>0.594</td>
</tr>
<tr>
<td>Within Groups (adjusted)</td>
<td>231.000</td>
<td>420</td>
<td>0.550</td>
<td></td>
</tr>
<tr>
<td>Total (adjusted)</td>
<td>231.327</td>
<td>421</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*An F Ratio of F.05 (1, 420) = 3.84
(Critical value of F with 1 and 420 degrees of freedom)
F observed as lower than F.05 Ratio of F critical value

Since F observed is not greater than F.05 Ratio of F critical value (3.84), the null hypothesis as stated cannot be rejected. There was no significant difference between Winter Quarter GPA for the two groups.

The null hypothesis concerned with Spring Quarter academic performance was stated:

\[ H_0 \]
\[ l.a.(3): \] There will be no significant difference between the Spring Quarter academic performance, as measured by overall grade point average, of freshmen minority students in the Freshmen Foundation special supportive services program than that of freshmen minority students who did not participate in the Freshmen Foundation Program.
To test the null hypothesis that there would be no significant difference between the two groups for Spring Quarter (1972), analysis of covariance was used. Summary data are presented in Table 5, and analysis of covariance in Table 6. The .05 level of significance was the point at which the hypothesis would be rejected.

### TABLE 5

GRADE POINT AVERAGES—SPRING QUARTER 1972 FOR FRESHMEN FOUNDATION STUDENTS AND NON-FRESHMEN FOUNDATION STUDENTS

<table>
<thead>
<tr>
<th></th>
<th>Non-Freshmen Foundation Group</th>
<th>Freshmen Foundation Group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT (mean)</td>
<td>18.034</td>
<td>14.961</td>
<td>15.600</td>
</tr>
<tr>
<td>GPA (unadjusted)</td>
<td>2.576</td>
<td>2.155</td>
<td>2.242</td>
</tr>
<tr>
<td>GPA (adjusted)</td>
<td>2.496</td>
<td>2.088</td>
<td>2.173</td>
</tr>
<tr>
<td>n</td>
<td>88</td>
<td>335</td>
<td>423</td>
</tr>
</tbody>
</table>

Freshmen Foundation Group mean GPA lower than Non-Freshmen Foundation Group mean GPA by 0.408

The Freshmen Foundation group mean GPA was lower than the Non-Freshmen Foundation Group mean GPA by 0.408 after being adjusted for the covariate ACT. The difference between the two groups unadjusted mean GPA was 0.421.
### TABLE 6

ANALYSIS OF COVARIANCE—SPRING QUARTER 1972 GRADE POINT AVERAGES FOR FRESHMEN FOUNDATION STUDENTS AND NON-FRESHMEN FOUNDATION STUDENTS

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>ms</th>
<th>F*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>6.948</td>
<td>1</td>
<td>6.948</td>
<td>0.756</td>
</tr>
<tr>
<td>Within Groups</td>
<td>3855.600</td>
<td>420</td>
<td>9.180</td>
<td>0.756</td>
</tr>
<tr>
<td>Total</td>
<td>3862.548</td>
<td>421</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*An F Ratio of F.05 (1, 420) = 3.84
(Critical value of F with 1 and 420 degrees of freedom)
F observed is lower than F.05 Ratio of F critical value

Since F observed is not greater than F.05 Ratio of F critical value (3.84), the null hypothesis as stated cannot be rejected. There was no significant difference between Spring Quarter GPA for the two groups.

The null hypothesis concerned with cumulative GPA at the end of Autumn, Winter, and Spring Quarters was stated:

\[ H_0 \]

1.a.(4): There will be no significant difference between the Autumn, Winter and Spring Quarters cumulative academic performance, as measured by overall grade point average, of freshmen minority students in the Freshmen Foundation special supportive services program than that of freshmen minority students who did not participate in the Freshmen Foundation Program.
To test the null hypothesis that there would be no significant difference between the two groups cumulative performance at the end of Autumn (1971), Winter (1972) and Spring (1972) Quarters, analysis of covariance was used. Summary data are presented in Table 7, and analysis of covariance in Table 8. The .05 level of significance was the point at which the hypothesis would be rejected.

**TABLE 7**

**CUMULATIVE GRADE POINT AVERAGES AT THE END OF AUTUMN 1971, WINTER 1972, SPRING 1972 QUARTERS FOR FRESHMEN FOUNDATION STUDENTS AND NON-FRESHMEN FOUNDATION STUDENTS**

<table>
<thead>
<tr>
<th></th>
<th>Non-Freshmen Foundation Group</th>
<th>Freshmen Foundation Group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT (mean)</td>
<td>18.034</td>
<td>14.961</td>
<td>15.600</td>
</tr>
<tr>
<td>GPA (unadjusted)</td>
<td>2.469</td>
<td>2.230</td>
<td>2.279</td>
</tr>
<tr>
<td>GPA (adjusted)</td>
<td>2.375</td>
<td>2.145</td>
<td>2.193</td>
</tr>
<tr>
<td>n</td>
<td>88</td>
<td>335</td>
<td>423</td>
</tr>
</tbody>
</table>

Freshmen Foundation Group mean GPA lower than Non-Freshmen Foundation Group men GPA by 0.230

The Freshmen Foundation group mean GPA was lower than the Non-Freshmen Foundation group mean GPA by 0.230 after being adjusted for the covariate ACT. The difference between the two groups unadjusted mean GPA was 0.239.
### TABLE 8

ANALYSIS OF COVARIANCE—CUMULATIVE GRADE POINT AVERAGES AT THE END OF AUTUMN 1971, WINTER 1972, SPRING 1972 QUARTERS FOR FRESHMEN FOUNDATION STUDENTS AND NON-FRESHMEN FOUNDATION STUDENTS

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>ms</th>
<th>F*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>0.958</td>
<td>1</td>
<td>0.958</td>
<td>0.326</td>
</tr>
<tr>
<td>Within Groups</td>
<td>1230.600</td>
<td>420</td>
<td>2.938</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1231.558</td>
<td>421</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*An F Ratio of F.05 (1, 420) = 3.84
(Critical value of F with 1 and 420 degrees of freedom)
F observed is lower than F.05 Ratio of F critical value

Since F observed is not greater than F.05 Ratio of F critical value (3.84), the null hypothesis as stated cannot be rejected. There was no significant difference between cumulative quarters GPA for the two groups.

In each instance the data in Tables 1, 3, 5, and 7 which were analyzed to test the preceding hypotheses showed the Non-Freshmen Foundation group mean to be higher than the mean of the Freshmen Foundation group. Although the Non-Freshmen Foundation group mean was higher than the Freshmen Foundation group mean, in no instance was the difference between the two means significant at F.05 level.

It can be observed in Table 9 by comparing the mean GPA
for Autumn, Winter and Spring Quarters the mean performance was highest Autumn Quarter for both groups. Winter Quarter both groups showed a drop in mean GPA but by the end of Spring Quarter both groups was showing a higher mean than the mean for the preceding quarter.

TABLE 9
A COMPARISON OF ADJUSTED \( ^\dagger \) MEAN GAIN BETWEEN AUTUMN 1971 AND WINTER 1972 QUARTERS AND BETWEEN WINTER 1972 AND SPRING 1972 QUARTERS BY GROUP

<table>
<thead>
<tr>
<th></th>
<th>Non-Freshmen Foundation Group</th>
<th>Freshmen Foundation Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autumn Quarter mean (adjusted)</td>
<td>2.314</td>
<td>2.213</td>
</tr>
<tr>
<td>Winter Quarter mean (adjusted)</td>
<td>2.254</td>
<td>2.057</td>
</tr>
<tr>
<td>( ^\dagger ) mean gain between Autumn and Winter Quarters</td>
<td>-0.060</td>
<td>-0.255</td>
</tr>
<tr>
<td>Spring Quarter mean (adjusted)</td>
<td>2.496</td>
<td>2.088</td>
</tr>
<tr>
<td>( ^\dagger ) mean gain between Winter and Spring Quarters</td>
<td>+0.242</td>
<td>+0.031</td>
</tr>
</tbody>
</table>

The magnitude of the loss of mean points after two quarters at The Ohio State University was greatest for the Freshmen Foundation group. The Freshmen Foundation group mean loss was .26 of one point while the Non-Freshmen Foundation group mean loss was only .06 of one point. The inverse was true when comparing the \( ^\dagger \) mean gain for the Winter and Spring Quarters performance. The Freshmen Foundation group mean gain was only .03 of one point while the Non-Freshmen
Foundation group mean was .24 of one point.

It must be left to conjecture what the Freshmen Foundation group might have done, in terms of academic performance, had supportive services not been provided. The investigator surmised that there would have been a significant difference between the quarter GPA for the two groups in each instance had supportive services not been provided the Freshmen Foundation group, but the size of such difference cannot be known.

Selected Course Performance Comparisons of the Freshmen Foundation and Non-Freshmen Foundation Groups

The null hypothesis concerned with performance in English 100 was stated:

\[ H_0 \]
\[ l.b.(1): \text{There will be no significant difference in the academic performance in English 100, as measured by course grades, between freshmen minority students in the Freshmen Foundation special supportive services program and freshmen minority students who did not participate in the Freshmen Foundation Program.} \]

To test the null hypothesis that there would be no significant difference between the two groups performance in English 100, analysis of covariance was used. Summary data are presented in Table 10, and analysis of covariance in Table 11. The .05 level of significance was the point at which the hypothesis would be rejected.
### TABLE 10
GRADE POINT AVERAGES-ENGLISH 100 FOR FRESHMEN FOUNDATION STUDENTS AND NON-FRESHMEN FOUNDATION STUDENTS

<table>
<thead>
<tr>
<th></th>
<th>Non-Freshmen Foundation Group</th>
<th>Freshmen Foundation Group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT (mean)</td>
<td>15.590</td>
<td>12.290</td>
<td>13.846</td>
</tr>
<tr>
<td>GPA (unadjusted)</td>
<td>2.205</td>
<td>1.115</td>
<td>1.629</td>
</tr>
<tr>
<td>GPA (adjusted)</td>
<td>2.110</td>
<td>1.067</td>
<td>1.558</td>
</tr>
<tr>
<td>n</td>
<td>83</td>
<td>93</td>
<td>176</td>
</tr>
</tbody>
</table>

Freshmen Foundation Group mean English 100 course grade lower than Non-Freshmen Foundation Group mean English 100 course grade by 1.043.

The Freshmen Foundation Group mean for English 100 course grades was lower than the Non-Freshmen Foundation Group mean English 100 course grade by 1.043 after being adjusted for the covariate ACT. The difference between the two groups unadjusted mean for English 100 course grades was 1.090.
TABLE 11
ANALYSIS OF COVARIANCE-GRADE POINT AVERAGES ENGLISH 100
FOR FRESHMEN FOUNDATION STUDENTS AND NON-FRESHMEN FOUNDATION STUDENTS

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>ms</th>
<th>F#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>10.738</td>
<td>1</td>
<td>10.738</td>
<td>9.826</td>
</tr>
<tr>
<td>Within Groups</td>
<td>189.059</td>
<td>173</td>
<td>1.093</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>199.797</td>
<td>174</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*An F Ratio of F.05 1, 173) = 3.84
(Critical value of F with 1 and 173 degrees of freedom)
F observed is higher than F.05 Ratio of F critical value

Since F observed is greater than F.05 Ratio of F critical value (3.84), the null hypothesis as stated was rejected. Therefore, there was a significant difference in the academic performance in English 100, as measured by course grades between freshmen minority students in Freshmen Foundation special supportive services program and freshmen minority students who did not participate in the Freshmen Foundation Program.

The Non-Freshmen Foundation Group mean for English 100 course grades was significantly higher at the .05 level of significance than was the Freshmen Foundation Group mean English 100 course grade.

The null hypothesis concerned with performance in
Biology 100 was stated:

\[ H_0 \]

l.b.(2): There will be no significant difference in the academic performance in Biology 100, as measured by course grade, between freshmen minority students in the Freshmen Foundation special supportive services program and freshmen minority students who did not participate in the Freshmen Foundation Program.

To test the null hypothesis that there would be no significant difference between the two groups performance in Biology 100, analysis of covariance was used. Summary data are presented in Table 12, and analysis of covariance in Table 13. The .05 level of significance was the point at which the hypothesis would be rejected.

**TABLE 12**

**GRADE POINT AVERAGES—BIOLOGY 100 FOR FRESHMEN FOUNDATION STUDENTS AND NON-FRESHMEN FOUNDATION STUDENTS**

<table>
<thead>
<tr>
<th></th>
<th>Non-Freshmen Foundation Group</th>
<th>Freshmen Foundation Group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT (mean)</td>
<td>19.907</td>
<td>15.033</td>
<td>16.295</td>
</tr>
<tr>
<td>GPA (unadjusted)</td>
<td>2.186</td>
<td>1.439</td>
<td>1.632</td>
</tr>
<tr>
<td>GPA (adjusted)</td>
<td>2.062</td>
<td>1.357</td>
<td>1.539</td>
</tr>
<tr>
<td>n</td>
<td>43</td>
<td>123</td>
<td>166</td>
</tr>
</tbody>
</table>

Freshmen Foundation Group mean Biology 100 course grade lower than Non-Freshmen Foundation Group mean Biology 100 course grade by 0.705.
The Freshmen Foundation Group mean for Biology 100 course grades was lower than the Non-Freshmen Foundation Group mean for Biology 100 course grades by 0.705 after being adjusted for the covariate ACT. The difference between the mean Biology 100 course grades for the groups prior to adjusting for the covariate was 0.747.

**TABLE 13**

ANALYSIS OF COVARIANCE-GRADE POINT AVERAGES BIOLOGY 100 FOR FRESHMEN FOUNDATION STUDENTS AND NON-FRESHMEN FOUNDATION STUDENTS

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>ms</th>
<th>F*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>22.852</td>
<td>1</td>
<td>22.852</td>
<td>19.405</td>
</tr>
<tr>
<td>(adjusted)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within Groups</td>
<td>191.953</td>
<td>163</td>
<td>1.178</td>
<td></td>
</tr>
<tr>
<td>(adjusted)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>214.805</td>
<td>164</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*An F Ratio of F.05 (1, 163) = 3.84
(Critical value of F with 1 and 163 degrees of freedom)
F observed is higher than F.05 Ratio of F critical value

Since F observed is greater than F.05 Ratio of F critical value (3.84), the null hypothesis as stated was rejected. Therefore, there was a significant difference in the academic performance in Biology 100 as measured by course grades, between Freshmen minority students in the Freshmen Foundation Special supportive services program and freshmen minority students who did not participate in the
Freshmen Foundation Program.

The Non-Freshmen Foundation Group mean for Biology 100 course grades was significantly higher, at the .05 level of significance, than the Freshmen Foundation Group mean for Biology 100 course grades.

The null hypothesis concerned with performance in History 103 was stated:

\[ H_0 \]

1.b.(3): There will be no significant difference in the academic performance in History 103, as measured by course grades, between freshmen minority students in the Freshmen Foundation special supportive services program, and freshmen minority students who did not participate in the Freshmen Foundation Program.

To test the null hypothesis that there would be no significant difference between the two groups performance in History 103, analysis of covariance was used. Summary data are presented in Table 14, and analysis of covariance in Table 15. The .05 level of significance was the point at which the hypothesis would be rejected.
TABLE 14

GRADE POINT AVERAGES-HISTORY 103 FOR FRESHMEN FOUNDATION STUDENTS AND NON-FRESHMEN FOUNDATION STUDENTS

<table>
<thead>
<tr>
<th></th>
<th>Non-Freshmen Foundation Group</th>
<th>Freshmen Foundation Group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT (mean)</td>
<td>15.476</td>
<td>14.567</td>
<td>14.941</td>
</tr>
<tr>
<td>GPA (unadjusted)</td>
<td>1.952</td>
<td>2.000</td>
<td>1.980</td>
</tr>
<tr>
<td>GPA (adjusted)</td>
<td>1.876</td>
<td>1.922</td>
<td>1.903</td>
</tr>
<tr>
<td>n</td>
<td>21</td>
<td>30</td>
<td>51</td>
</tr>
</tbody>
</table>

Freshmen Foundation Group mean History 103 course grade higher than Non-Freshmen Foundation group mean History 103 course grade by 0.046.

The Freshmen Foundation Group mean for History 103 course grades was higher than the Non-Freshmen Foundation Group mean for History 103 course grades by 0.046 after being adjusted for the covariate ACT. The difference between the unadjusted mean for History 103 for the two groups was 0.048.
TABLE 15
ANALYSIS OF COVARIANCE-GRADE POINT AVERAGES HISTORY 103 FOR FRESHMEN FOUNDATION STUDENTS AND NON-FRESHMEN FOUNDATION STUDENTS

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>ms</th>
<th>F*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups (adjusted)</td>
<td>3.160</td>
<td>1</td>
<td>3.160</td>
<td>2.719</td>
</tr>
<tr>
<td>Within Groups (adjusted)</td>
<td>55.792</td>
<td>48</td>
<td>1.162</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>58.952</td>
<td>49</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*An F Ratio of F.05 (1, 48) = 4.08
(Critical value of F with 1 and 48 degrees of freedom)
F observed is lower than F.05 Ratio of F critical value.

Since F observed is less than F.05 Ratio of F critical value (4.08), the null hypothesis as stated cannot be rejected. The Freshmen Foundation Group mean for History 103 course grades was higher than the Non-Freshmen Foundation Group mean but it was not significantly higher at the .05 level of significance.

The null hypothesis concerned with performance in Sociology 101 was stated:

\[ H_0 \]

1.b.(4): There will be no significant difference in the academic performance in Sociology 101, as measured by course grades, between freshmen minority students in Freshmen Foundation special supportive services program and freshmen minority students who did not participate in the Freshmen Foundation Program.
To test the null hypothesis that there would be no significant difference between the performance of the two groups in Sociology 101, analysis of covariance was used. Summary data are presented in Table 16, analysis of covariance in Table 17. The .05 level of significance was the point at which the hypothesis would be rejected.

**TABLE 16**

**GRADE POINT AVERAGES—SOCIOLOGY 101 FOR FRESHMEN FOUNDATION STUDENTS AND NON-FRESHMEN FOUNDATION STUDENTS**

<table>
<thead>
<tr>
<th></th>
<th>Non-Freshmen Foundation Group</th>
<th>Freshmen Foundation Group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT (mean)</td>
<td>17.438</td>
<td>12.696</td>
<td>13.662</td>
</tr>
<tr>
<td>GPA (unadjusted)</td>
<td>1.531</td>
<td>1.312</td>
<td>1.363</td>
</tr>
<tr>
<td>GPA (adjusted)</td>
<td>1.476</td>
<td>1.265</td>
<td>1.308</td>
</tr>
<tr>
<td>n</td>
<td>32</td>
<td>125</td>
<td>157</td>
</tr>
</tbody>
</table>

Freshmen Foundation Group mean Sociology 101 course grade lower than Non-Freshmen Foundation Group mean Sociology 101 course grade by 0.211

The Freshmen Foundation Group mean for Sociology 100 course grades was lower than the Non-Freshmen Foundation Group mean for Sociology 101 course grades by 0.211 after being adjusted for the covariate ACT. The difference between the unadjusted mean for Sociology 101 for the two groups was 0.119.
TABLE 17
ANALYSIS OF COVARIANCE-GRADE POINT AVERAGES SOCIOLOGY 101
FOR FRESHMEN FOUNDATION STUDENTS AND NON-FRESHMEN FOUNDATION STUDENTS

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>ms</th>
<th>F*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups (adjusted)</td>
<td>9.642</td>
<td>1</td>
<td>9.642</td>
<td>10.090</td>
</tr>
<tr>
<td>Within Groups (adjusted)</td>
<td>147.159</td>
<td>154</td>
<td>0.956</td>
<td></td>
</tr>
<tr>
<td>Total (adjusted)</td>
<td>156.801</td>
<td>155</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#An F Ratio of $F.05 (1, 154) = 3.84$
(Critical value of F with 1 and 154 degrees of freedom)

Since F observed is greater than F.05 Ratio of F critical value (3.84), the null hypothesis as stated was rejected. Therefore there was a significant difference in the academic performance in Sociology 101, as measured by course grades, between freshmen minority students in Freshmen Foundation special supportive services program and freshmen minority students who did not participate in the Freshmen Foundation Program.

The Non-Freshmen Foundation Group mean for Sociology 101 course grades was significantly higher, at the .05 level of significance, than the Freshmen Foundation Group mean for Sociology 101 course grades.
The null hypothesis concerned with performance in Psychology 100 was stated:

\[ H_0 \]

1.b.(5): There will be no significant difference in the academic performance in Psychology 100, as measured by course grades, between Freshmen minority students in the Freshmen Foundation special supportive services program and freshmen minority students who did not participate in the Freshmen Foundation Program.

To test the null hypothesis that there would be no significant difference between the two groups performance in Psychology 100, analysis of covariance was used. Summary data are presented in Table 18, and analysis of covariance in Table 19. The .05 level of significance was the point at which the hypothesis would be rejected.

**TABLE 18**

<table>
<thead>
<tr>
<th>Non-Freshmen Foundation Group</th>
<th>Freshmen Foundation Group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ACT (mean)</strong></td>
<td>18.576</td>
<td>14.521</td>
</tr>
<tr>
<td><strong>GPA (unadjusted)</strong></td>
<td>2.017</td>
<td>1.833</td>
</tr>
<tr>
<td><strong>GPA (adjusted)</strong></td>
<td>1.976</td>
<td>1.758</td>
</tr>
<tr>
<td><strong>n</strong></td>
<td>59</td>
<td>48</td>
</tr>
</tbody>
</table>

Freshmen Foundation Group mean Psychology 100 course grade lower than Non-Freshmen Foundation Group mean Psychology 100 course grade by 0.218
Freshmen Foundation Group mean for Psychology 100 course grades was lower than the Non-Freshmen Foundation Group mean for Psychology 100 course grades by 0.218 after being adjusted for the covariate ACT. The difference between the unadjusted mean for Psychology 100 for the two groups was 0.184.

TABLE 19
ANALYSIS OF COVARIANCE-GRADE POINT AVERAGES PSYCHOLOGY 100 FOR FRESHMEN FOUNDATION STUDENTS AND NON-FRESHMEN FOUNDATION STUDENTS

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>ms</th>
<th>F*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups (adjusted)</td>
<td>9.649</td>
<td>1</td>
<td>9.649</td>
<td>10.907</td>
</tr>
<tr>
<td>Within Groups (adjusted)</td>
<td>92.001</td>
<td>104</td>
<td>0.885</td>
<td></td>
</tr>
<tr>
<td>Total (adjusted)</td>
<td>101.650</td>
<td>105</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*An F Ratio of F.05 (1, 104) = 3.84
(Critical value of F with 1 and 104 degrees of freedom)
F observed is higher than F.05 Ratio of F critical value

Since F observed is greater than F.05 Ratio of F critical value (3.84), the null hypothesis as stated is rejected. Therefore, there was a significant difference in the academic performance in Psychology 100, as measured by course grades, between freshmen minority students in Freshmen Foundation special supportive services program and freshmen minority students who did not participate in the Freshmen Foundation Program.
The Non-Freshmen Foundation Group mean for Psychology 100 course grades was significantly higher, at the .05 level of significance, than the Freshmen Foundation Group mean for Psychology 100 course grades.

The null hypothesis concerned with comparing the performance of Freshmen Foundation students in English 100, after having satisfactorily completing an English remedial course (English 193), with minority students who did not participate in Freshmen Foundation but who took English 100 without having taken English 193 was stated:

\[ H_0 \]

\[ 1.b.(6): \text{There will be no significant difference in the academic performance in English 100, as measured by course grades, between freshmen minority students in the Freshmen Foundation special supportive services program who took English 193 and freshmen minority students who did not participate in the Freshmen Foundation Program and who did not take English 193.} \]

To test the null hypothesis that there would be no significant difference between the two groups performance in English 100, after one group had been exposed to remediation, analysis of covariance was used. Summary data are presented in Table 20, and analysis of covariance in Table 21. The .05 level of significance was the point at which the hypothesis would be rejected.
<table>
<thead>
<tr>
<th></th>
<th>Non-Freshmen Foundation Group</th>
<th>Freshmen Foundation Group</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT (mean)</td>
<td>15.590</td>
<td>9.192</td>
<td>14.063</td>
</tr>
<tr>
<td>GPA (unadjusted)</td>
<td>2.205</td>
<td>1.731</td>
<td>2.091</td>
</tr>
<tr>
<td>GPA (adjusted)</td>
<td>2.111</td>
<td>1.657</td>
<td>2.002</td>
</tr>
<tr>
<td>n</td>
<td>83</td>
<td>26</td>
<td>109</td>
</tr>
</tbody>
</table>

Following the completion of English 193 Freshmen Foundation Group mean English 100 course grade lower than Non-Freshmen Foundation group mean English 100 course grade by 0.454

Freshmen Foundation Group mean for English 100 course grades were lower than the Non-Freshmen Foundation Group mean for English 100 course grades by 0.454 after being corrected for the covariate ACT, and after satisfactorily completing an English remedial course (English 193). The difference between the two groups unadjusted means for English 100, following completion of English 193 by the Freshmen Foundation Group was 0.474.
### TABLE 21

**ANALYSIS OF COVARIANCE-GR ADE POINT AVERAGES ENGLISH 100 FOR FRESHMEN FOUNDATION STUDENTS WHO COMPLETED ENGLISH 193 AND NON-FRESHMEN FOUNDATION STUDENTS WHO DID NOT TAKE ENGLISH 193**

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>ms</th>
<th>F*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups (adjusted)</td>
<td>5.799</td>
<td>1</td>
<td>5.799</td>
<td>5.648</td>
</tr>
<tr>
<td>Within Groups (adjusted)</td>
<td>108.835</td>
<td>106</td>
<td>1.027</td>
<td></td>
</tr>
<tr>
<td>Total (adjusted)</td>
<td>114.634</td>
<td>107</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*An F Ratio of F.05 (1, 106) = 4.00  
(Critical value of $F$ with 1 and 106 degrees of freedom)  
$F$ observed is higher than F.05 Ratio of $F$ critical value

Since $F$ observed is greater than F.05 Ratio of $F$ critical value (4.00), the null hypothesis as stated is rejected. Therefore, there is a significant difference in the academic performance in English 100, as measured by course grades, between freshmen minority students in the Freshmen Foundation special supportive services program who took English 193 and freshmen minority students who did not participate in the Freshmen Foundation Program and who did not take English 193.

The Non-Freshmen Foundation Group mean for English 100 course grades was significantly higher, at the .05 level of significance, than the Freshmen Foundation Group mean for English 100 although the Freshmen Foundation Group had completed English 193 prior to enrolling in English 100.
With one exception, each hypothesis tested which was related to selected course performance resulted in the investigator rejecting the null hypothesis. The one hypothesis on which data were analyzed but resulted in a failure to reject is represented in Tables 14 and 15.

Summary

The four hypotheses tested which were related to quarter and cumulative quarters performance were not rejected at the .05 level of significance. On the basis of the findings of this study the relationship between the supportive services received by the Freshmen Foundation Group and their academic performance was not statistically significant. The Non-Freshmen Foundation Group consistently maintained a higher group mean quarter grade point average.

With one exception, the six hypotheses tested which were related to academic performance in selected courses were rejected. These findings further suggest that there was not a statistically significant relationship between the supportive services received and academic performance in the selected courses. In each instance when a hypothesis was rejected it was rejected in favor of the Non-Freshmen Foundation Group.

The findings notwithstanding, the investigator felt that the results may have been different under controlled
experimental conditions. The two groups were "in tact." This fact alone prevented controlling for certain variables. The findings could have been influenced by: (1) the group the individuals were in; (2) the courses chosen by the investigator to test the relationship between supportive services and college performance; and (3) ACT scores which were significantly different in favor of the Non-Freshmen Foundation Group.
CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

This study investigated the relationship between the supportive services received by specially recruited freshmen minority students at The Ohio State University and academic performance as measured by overall grade point average as well as performance in selected college courses as measured by course grade. In consultation with the Director of Program Development and Research of the Office of Minority Affairs it was decided that the population for the study would be the 569 minority freshmen students specially recruited, 464 of whom participated in the Freshmen Foundation Program and received the special supportive services offered through the program. This group was identified as the Freshmen Foundation group. A search of available records further revealed that 105 of the specially recruited students, selected for enrollment by the same criteria as the 464 Freshmen Foundation students, did not participate in the Freshmen Foundation Program and did not receive the special supportive services available through the program. This group was designated the Non-Freshmen
Foundation group.

Statistical procedures were used to analyze the data. Analysis of covariance was utilized to test the hypotheses concerned with the significance of the difference between the group means on grade point average for Autumn Quarter (1971), Winter Quarter (1972), Spring Quarter (1972), and cumulative quarters after completing Autumn, Winter and Spring Quarters. Analysis of covariance was also utilized to test the hypotheses concerned with the significance of the difference between group mean scores in selected courses.

All hypotheses were tested in null form and were rejected if the calculated F value was significant at or beyond the .05 level of probability. Ten null hypotheses were stated and tested. Findings from this investigation are reported within the framework of the design of the study (Chapter 3) and the results from the analysis of data in the preceding chapter.

Findings

The null hypotheses that were tested and the findings were as follows:

Hypothesis 1.a.(1)

There will be no significant difference between the Autumn Quarter academic performance, as measured by overall grade point average, of freshmen minority students in the Freshmen Foundation special supportive services program
than that of freshmen minority students who did not participate in the Freshmen Foundation Program.

Finding. The null hypothesis as stated could not be rejected because an analysis of the data revealed no significant difference between the group means as it related to Autumn Quarter grade point average. The difference between the means of the two groups was nonsignificant at the .05 level of significance.

Hypothesis 1.a.(2)

There will be no significant difference between Winter Quarter academic performance, as measured by overall grade point average, of freshmen minority students in the Freshmen Foundation special supportive services program than that of freshmen minority students who did not participate in the Freshmen Foundation Program.

Finding. Based on the analysis of data, the null hypothesis as stated could not be rejected. The difference between the means of the two groups was nonsignificant at the .05 level of significance.

Hypothesis 1.a.(3)

There will be no significant difference between the Spring Quarter academic performance, as measured by overall grade point average, of freshmen minority students in the Freshmen Foundation special supportive services program than that of freshmen minority students who did not participate in the Freshmen Foundation Program.
Finding. The difference between the means of the two groups was found to be nonsignificant. Therefore, the hypothesis as stated could not be rejected at the .05 probability level.

Hypothesis 1.a.(4)

There will be no significant difference between the Autumn, Winter and Spring Quarters cumulative academic performances as measured by overall grade point average, of freshmen minority students in Freshmen Foundation special supportive services program than that of freshmen minority students who did not participate in the Freshmen Foundation Program.

Finding. The null hypothesis could not be rejected on the basis of the findings from the analysis of the data. The difference between the means of the two groups was not significant at the .05 level of significance.

The group means (adjusted and unadjusted) for the Freshmen Foundation group were consistently below the means (adjusted and unadjusted) of the Non-Freshmen Foundation group. The providing of special supportive services for specially recruited minority students does not appear to make a significant difference in grade point average performance of the students at The Ohio State University.

A closer examination of the data presented in Tables 1, 3, 5, and 7 revealed that the difference between the Non-Freshmen Foundation group and the Freshmen Foundation group unadjusted mean grade point averages was larger for
each quarter tested than was the difference between adjusted mean grade point averages for the same period. Although it is not statistically safe or correct to conclusively state that the smaller difference in means is due to the supportive services received, the investigator feels that it must be observed that; (1) the difference between the group mean grade point average (adjusted) was smaller than the difference between the group mean grade point average (unadjusted), and (2) the group in whose favor the smaller difference was recorded did in fact receive supportive services.

Hypothesis 1.b.(1)

There will be no significant difference in the academic performance in English 100, as measured by course grades, between freshmen minority students in the Freshmen Foundation special supportive services program and freshmen minority students who did not participate in the Freshmen Foundation Program.

Finding. Based on the analysis of the difference between the means of the Freshmen Foundation and Non-Freshmen Foundation groups the null hypothesis as stated was rejected. The difference between the two means was significantly different at the .05 level of probability. Based on the data analyzed the Non-Freshmen Foundation Group performed significantly better than did the Freshmen Foundation Group.
Hypothesis 1.b.(2)

There will be no significant difference in the academic performance in Biology 100, as measured by course grades, between freshmen minority students in the Freshmen Foundation special supportive services program and freshmen minority students who did not participate in the Freshmen Foundation Program.

Finding. The null hypothesis was rejected because an analysis of the data revealed a significant difference between the mean scores of the two groups in Biology 100 at the .05 level of significance. Based on the data analyzed the Non-Freshmen Foundation group performed significantly better than did the Freshmen Foundation group.

Hypothesis 1.b.(3)

There will be no significant difference in academic performance in History 103, as measured by course grades, between freshmen minority students in the Freshmen Foundation special supportive services program and freshmen minority students who did not participate in the Freshmen Foundation Program.

Finding. There was no significant difference in academic performance, as measured by course grades, between the two groups. Therefore, the null hypothesis as stated could not be rejected. There was a difference between the means of the two groups in favor of the Freshmen Foundation Group. However, the difference was not great enough to measure statistically significant at the .05 level of probability.
Hypothesis 1.b.(4)

There will be no significant difference in the academic performance in Sociology 101, as measured by course grades, between freshmen minority students in Freshmen Foundation special supportive services program and freshmen minority students who did not participate in the Freshmen Foundation Program.

Finding. The null hypothesis as stated was rejected based on the analysis of data. The difference between the mean of the Freshmen Foundation Group and the mean of the Non-Freshmen Foundation Group was not significant at the .05 level of probability. On the basis of data analyzed the Non-Freshmen Foundation Group performed significantly higher than the Freshmen Foundation Group.

Hypothesis 1.b.(5)

There will be no significant difference in the academic performance in Psychology 100, as measured by course grades, between freshmen minority students in the Freshmen Foundation special supportive services program and freshmen minority students who did not participate in the Freshmen Foundation Program.

Finding. The null hypothesis was rejected as stated. There was a significant difference at the .05 level of probability in the academic performance in Psychology 100, as measured by course grades, between freshmen minority students in the Freshmen Foundation special supportive services program and freshmen minority students who did not participate in the Freshmen Foundation Program.
Hypothesis 1.b.(6)

There will be no significant difference in the academic performance in English 100, as measured by course grades, between freshmen minority students in the Freshmen Foundation special supportives services program who took English 193 and freshmen minority students who did not participate in the Freshmen Foundation Program and who did not take English 193.

Finding. An analysis of the data presented in Table 20 resulted in the rejection of the null hypothesis. There was a significant difference between the means of the Freshmen Foundation and Non-Freshmen Foundation Groups at the .05 level of significance.

A close examination and comparison of the data presented in Table 20 with the data presented in Table 10 revealed that the Freshmen Foundation Group adjusted mean was mathematically closer (0.454) to the Non-Freshmen Foundation Group adjusted mean when the Freshmen Foundation Group completed English 193 prior to taking English 100 than were the two adjusted means (1.043) when the Freshmen Foundation Group took English 100 without taking English 193.

Five of the ten hypotheses tested were rejected. In each case when the null hypotheses was rejected it was rejected because the Non-Freshmen Foundation Group mean was statistically higher than the mean of the Freshmen Foundation Group. Five of the ten hypotheses could not be rejected
on the basis of the results of the analysis of data presented to test the null hypotheses.

**Conclusion**

There were seven limitations to this study listed in Chapter I. Each limitation needs to be remembered when reading the conclusions to this study. The limitations will not be restated here. Therefore, the reader is encouraged to review the limitations as listed on pages 14 and 15.

For the minority students participating in the Freshmen Foundation Program in the 1971-72 school year, the data analyzed showed that in the case of overall academic performance as measured by grade point average, the Freshmen Foundation Program made no significant difference. The findings revealed that the difference between academic performance of the two groups of specially recruited minority students, one group participated in the Freshmen Foundation Program and the other group did not, was not statistically significant at the .05 level of significance when overall grade point average was analyzed. These findings may be contrary to what may have been expected.

It would not have been accurate to conclude from these group results that the Freshmen Foundation Program made no difference in the performance of some individuals within the group. On the other hand it was concluded that the Freshmen
Foundation Program in which freshmen minority students at The Ohio State University participated: (1) made no significant difference in academic performance as measured by grade point average for Autumn Quarter, 1971, (2) made no significant difference in academic performance as measured by grade point average for Winter Quarter, 1972; (3) made no significant difference in academic performance as measured by grade point average for Spring Quarter, 1972; and (4) made no significant difference in academic performance when the cumulative quarter performance was analyzed.

Further, on the basis of data analyzed, it was concluded that there was a significant difference in academic achievement between the two groups, as measured by course grades in each selected course with the exception of one. Minority students who did not participate in the Freshmen Foundation Program at The Ohio State University during the 1971-72 academic school year achieved significantly higher in each selected course except History, than minority students who participated in the Freshmen Foundation Program. There was no significant difference between the achievement of the two groups, as measured by course grades, in History 103. The selected courses on which data were collected and analyzed and in which there was a significant difference in achievement between the two groups were; (1) English 100; (2) Biology 100; (3) Sociology 101; (4) Psychology 100; and (5) English 100
following the completion of English 193.

The fact that the significant differences reported were in favor of the Non-Freshmen Foundation Group, led the investigator to conclude that Freshmen Foundation made no statistically significant difference in course achievement for minority students participating in the program. It would have been inaccurate to conclude that the Freshmen Foundation Program made no difference in course achievement as measured by course grade for any members of the group who participated in the program. On the other hand it was concluded that the Freshmen Foundation Program made no statistically significant difference in achievement between the two groups as measured by course grades.

The students in the two groups differed significantly on ACT and probably differed significantly on some other important variables. The investigator's inability to identify and control for those other probable influential variables could have resulted in the findings as reported. The findings as reported have meaning in relation to practice and theory in the development of programs that are responsive to the needs of minority students at the high school level as well as in higher education.

The results from the hypotheses investigated provide valuable information in helping high school counselors and administrators to devise meaningful programs of counseling
and guidance. Programs can be developed which do not operate from the premise that all students are college bound or that particular groups of students are college bound, while other groups of students are automatically not college bound.

The results suggest that the problems which the Freshmen Foundation concept attempted to bridge was perhaps a problem which should have been dealt with long before the subjects became college students.

Findings from this study provide much needed assistance to higher education administrators in the evaluation and restructuring of the academic unit of programs designed to assist "high risk" students succeed in college.

**Recommendations**

The investigator was aware that the overall academic performance as measured by grade point average was constituted by the average performance in all courses taken for the period under consideration. (For the purpose of this study the period was one academic year.) Therefore, the recommendations are concerned with improving performance in selected courses. The following two recommendations were made.

1. Achievement in social studies and the sciences is dependent upon the ability of the student to read and understand as well as comprehend what has been
read. The Freshmen Foundation Program offered reading and study skills classes as part of the special supportive services program. The classes were planned for voluntary participation and were non-credit by design. Therefore, many students chose not to participate in the classes. It is recommended that reading and study skills classes be developed which: (a) would permit students who enroll to receive college credit, and (b) would be acceptable by the University as a course which could be taken to satisfy basic university requirements.

2. The Freshmen Foundation Program offered English 193, a remedial course, as part of its special supportive services program. It is the opinion of the investigator, on the basis of the study, that the English 193 course was helpful but did not go far enough in preparing students to perform better in English 100, a college course. The investigator further feels that English 193 was a factor which contributed to moving the group mean of the Freshmen Foundation Group closer to the Non-Freshmen Foundation Group mean than was recorded when the two groups were compared after
completing English 100 without one group having taken English 193. It is recommended that a much more intensive, clinical approach be taken in remedial English. The clinicians should be individuals who are conversant with and have an appreciation for persons whose speech patterns are different from the majority population.

Each of the above recommendations attempt to solve problems that should have been corrected before the student became of college age. Nevertheless, until such time the public school experiences become more meaningful and until the guardians of homes, in which speech patterns and reading habits are developed, are made aware of the need for early childhood development there will be the need for sound college freshmen developmental programs.

Implications for Further Research

The implications for further research embrace several possibilities. They could include but not be limited to the following list.

1. Design a study to determine if supportive services are essential to increase enrollment of minority students on historically white campuses.

2. Design a study to determine what personal, social and psychological factors are most prevalent in
students who do not succeed in college with special supportive services.

3. Design a study to determine the extent to which certain personality traits interacting with the elements of a supportive services program are predictors of college retention, success or failure.

4. Design a study to determine if members of one ethnic minority group achieve significantly higher than members of another ethnic minority group of similar socio-educational background receiving identical experimental treatment of supportive services.

5. Design a study to test significance of achievement by using larger population samples for a two or more group experimental designs over a longer period of time. (i.e., Solomon Four-Group Design, or Pretest-Posttest Control Group Design.)

6. The results of this study are based on the academic performance of specially recruited minority students at The Ohio State University for one academic year. It is suggested that comparable studies be conducted at other schools which have developed special supportive services programs for "high risk" students involving upwards to four years of academic study.
7. The results of this study are based on data available on students who remained at the university for three consecutive quarters. A study could be developed to examine the socio-economic and educational background of the drop-out and compare them to a group of students who remained with the program in an effort to determine if a pattern exists that could be used as a reliable predictor of college success. Such other factors as parental aspirations, high school counselor-student relationships, high school rank, and participation in high school and college extra curricula activities could provide a basis for the study.
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