AN ABSTRACT OF THE THESIS OF

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Purpose The purpose of this study was to determine if the Basic Educational Opportunity Grant program at Oregon State University achieved its goal of providing equal access to the benefits of higher education for students who have low financial resources as compared to students not receiving student financial aid.

Design The study had two major segments. The first segment compared 150 Basic Educational Opportunity Grant recipients with 150 non-financial aid recipients. These two groups were pair-matched to control for predicted freshman year grade point average. The two groups were compared over a five year period with respect to the following variables related to persistence or non-persistence: 1) academic year grade point average, 2) academic year mean completed credit hours, 3) withdrawal rates, 4) suspension rates, 5) return rates for the next fall term, and 6) graduation rates.

The second part of the study investigated the possible differences between the various Basic Grant award levels when Basic Grant recipients were compared on the six variables. The six variables were also studied in relation to the various type(s) of financial aid received in addition to the Basic Grant.

<u>Conclusions</u> Based on the results of this study the following conclusions were drawn:

- 1. There was no significant difference between the number of credit hours earned by Basic Educational Opportunity Grant recipients and non-financial aid recipients.
- 2. Basic Educational Opportunity Grant recipients and non-financial aid recipients did not have significantly different grade point averages.
- 3. There were no significant differences between Basic Educational Opportunity Grant recipients and non-financial aid recipients with respect to withdrawal and suspension rates.
- 4. There was no significant difference in the combined fourth and fifth year graduation rate between Basic Educational Opportunity Grant recipients and non-financial aid recipients.
- 5. There were no significant differences in the return rates in the second through fifth years of study between Basic Educational Opportunity Grant recipients and non-financial aid recipients. The return rate for the sixth year, fall term, 1980, was significantly

higher for Basic Educational Opportunity Grant recipients.

- 6. There were no significant differences in the persistence of Basic Educational Opportunity Grant recipients when the various Basic Grant awards were compared.
- 7. Significant differences were found in the second year return rate and the fourth year graduation rate for Basic Educational Opportunity Grant recipients when the different types of aid packages were compared.

Summary It may be concluded that the Basic Educational Opportunity
Grant program has met its goal of providing equal access to the benefits of higher education at Oregon State University. The five year
study indicated that students receiving the Basic Grant persisted at
a rate at least equal to that of students of the same ability level who
did not receive student financial assistance.

A Longitudinal Study of Basic Educational Opportunity Grant Recipients at Oregon State University, 1975-1980

by

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A LONGITUDINAL STUDY OF BASIC EDUCATIONAL OPPORTUNITY GRANT RECIPIENTS AT OREGON STATE UNIVERSITY, 1975-1980

I. THE PROBLEM

Introduction

Since the end of World War II, the method of financing undergraduate higher education has changed dramatically. In recent years the prime vehicle to finance student educational costs has been the funding of individual students through financial aid programs.

The federal government currently is providing the major source of assistance to students in public higher education. The federal role in providing support to colleges and universities began with the Morrill Act of 1862. However, major student support has increased greatly over the last two decades with the passage of the National Defense Education Act in 1958. McCormick (1972) indicates that this act was a reaction to the Soviet Union's 1957 launch of "Sputnik" and created the National Defense Student Loan Program. The College Work-Study Program began in 1965 and the Educational Opportunity Program in 1968. The Guaranteed Student Loan Program was also created by the Higher Education Act of 1965.

The Education Amendments of 1972 created the Basic Educational Opportunity Grant Program (Basic Grant). This program was

designed to be the foundation on which all student aid packages were to be built. The Education Amendments of 1972 also changed the names of the National Defense Student Loan Program to National Direct Student Loan, and the Educational Opportunity Grant Program to Supplemental Educational Grant Program (Title IV, PL 92-318).

The Basic Educational Opportunity Grant Program became the first truly "portable" student grant program. The Basic Grant can be utilized at any of approximately 6300 institutions of post-secondary education approved by the U.S. Office of Education. It is considered an entitlement program. Student eligibility and grant amount are based on the student's financial need. The student's need is computed using uniform criteria on a national rather than institutional basis.

As a strictly financial need based program, no scholastic determination is made when assessing eligibility for the Basic Grant. The award is to be used solely for expenses related to attendance at an eligible college, university, vocational or technical school. These expenses include tuition, fees, room, board, books, supplies, and miscellaneous personal expenses. The authorizing legislation for Basic Grants currently limits the maximum award to no more than one-half of the eductional costs of the eligible student. The Basic Grant is a grant and therefore requires no repayment.

The Basic Grant Program had a three year phase-in period, 1973-74, 1974-75, and 1975-76. The first year awards ranged from \$50 to \$452. The award range for 1974-75 was \$50 to \$1050. With full funding, awards ranged from \$200 to \$1400 in the 1975-76 academic year. During the first year the program was limited to students who began their post-high school education after July 1, 1973. The cut-off date was changed to April 1, 1973, for the 1974-75 and 1975-76 academic years. As indicated in Appendix A, the Basic Grant program at Oregon State University expanded dramatically in the first three years, 1973-76.

The purpose of the Basic Grant program as stated in Education

Amendments of 1972 is

... to assist in making available the benefits of postsecondary education to qualified students in institutions of higher education by....providing basic educational opportunity grants...to all eligible students.... (Sect. 401, PL 92-318)

The concept of "entitlement" was established with the Basic Grant program. The program is designed to provide access for every individual who desires a post-secondary education. It is hoped that such access is the first step in providing for equality of opportunity to better oneself.

Former Health, Education and Welfare Secretary Joseph

Califano (1978) called the Basic Educational Opportunity Grant

Program "...the G.I. Bill for American poor and lower middle

class." In additional testimony before the House Subcommittee on

Government Operations he indicated the U.S. Office of Education had

no information on what extent the program was reaching its goal of providing access to higher education. There were no educational program data available on Basic Grant recipients.

The Education Amendments of 1980 were signed by President

Carter on October 3, 1980. Section 491 created the National Commission on Student Assistance. One of the mandates of the Commission is to

...conduct longitudinal studies of high school students in order to determine the effect of federally authorized student assistance programs upon postsecondary education access and choices of high school students (Sect. 491, PL 96-374).

In addition, the Commission is to study

... the impact of various levels of student borrowing, grants, gift aid, and employment on the educational performance, future career choices, and future educational choices of students (Sect. 491, PL 96-374).

Annual federal appropriation for the Basic Grant program now exceeds \$2.4 billion and is the major source of undergraduate student financial assistance.

Purpose of the Study

The purpose of this study was to evaluate whether the Basic Grant program at Oregon State University has provided access to higher education for students with lower financial resources. The study compares the persistence, achievement, and graduation rates

of Basic Grant recipients with students receiving no student financial aid for the years 1975-1980.

The study has two major segments, the first comparing Basic Grant recipients with non-aided students. These two groups are compared in respect to:

- 1. Academic year mean GPA
- 2. Academic year mean completed credit hours
- 3. Withdrawal rates
- 4. Suspension rates
- 5. Return rates for the next fall term
- 6. Graduation rates

The second part of the study investigates the possible differences between the various Basic Grant award levels when Basic Grant recipients are compared on the six measures of persistence and non-persistence listed above. These same factors are studied in relation to type(s) of financial aid received in addition to the Basic Grant. There are eight possible aid packages that might be awarded:

- 1. Basic Grant only
- 2. Basic Grand and other grant(s)/scholarship(s)
- 3. Basic Grant and work
- 4. Basic Grant and loan(s)
- 5. Basic Grant, loan(s) and work
- 6. Basic Grant, other grant(s)/scholarship(s), and loan(s)

- 7. Basic Grant, other grant(s)/scholarship(s), and work
- 8. Basic Grant, other grant(s)/scholarship(s), loan(s), work

Statement of the Problem

The problem investigated by this study was whether Basic Educational Opportunity Grant recipients persist and achieve as well academically as the non-aided students at Oregon State University. In addition, this study sought to determine if there were differences between either Basic Grant award levels and persistence/academic achievement, or types of financial aid packaged with Basic Grants and persistence/academic achievement.

Importance of the Study

As former Secretary Califano indicated, there currently is no adequate data to show whether the Basic Grant program is meeting its goal. The goal of the Basic Grant program is to provide access to and the benefits of higher education to all qualified students without regard for the limits of their financial resources.

At present only one study has been completed to evaluate the Basic Grant program. Zielke (1977) studied 102 Basic Grant recipients at the University of Wyoming. The study selected students who received the grant during the first year of the program (1973-74). The educational progress of these 102 Basic Grant recipients over four

years (1973-1977) was compared to a pair-matched sample of non-recipients. The study indicated that the Basic Grant recipients achieved as well academically as the non-recipients. However, the significance of the study is limited by the fact that the study selected recipients during the first year of the program. Awards were limited to \$452 during the 1973-74 academic year and the total number of recipients was very limited. The program did not reach full funding until the 1975-76 academic year. Award levels of a maximum of \$452 could not be considered a "foundation" of financial aid support or a measure of the full impact of the Basic Grant program. Since the program was new during the 1973-74 school year, student participation levels were limited by the lack of information regarding application and award procedures.

Research Hypotheses

To facilitate statistical analysis of the data, the following null hypotheses were developed:

- There is no significant difference in the mean grade point average (GPA) between Basic Grant recipients and nonfinancial aid recipients at the end of
 - A. the first year
 - B. the second year
 - C. the third year

- D. the fourth year
- 2. There is no significant difference in the mean academic year credit hours earned by Basic Grant recipients and nonfinancial aid recipients at the end of
 - A. the first year
 - B. the second year
 - C. the third year
 - D. the fourth year
- 3. There is no significant difference in the withdrawal rates

 between Basic Grant recipients and non-financial aid recipients at the end of
 - A. the first year
 - B. the second year
 - C. the third year
 - D. the fourth year
- 4. There is no significant difference in the suspension rates

 between Basic Grant recipients and non-financial aid recipients at the end of
 - A. the first year
 - B. the second year
 - C. the third year
 - D. the fourth year
- 5. There is no significant difference in return rates for the fall

term between Basic Grant recipients and non-financial aid recipients at the beginning of

- A. the second year
- B. the third year
- C. the fourth year
- D. the fifth year
- E. the sixth year
- 6. There is no significant difference in graduation rates

 between Basic Grant recipients and non-aid recipients at
 the end of
 - A. the fourth year
 - B. the fifth year
- 7. There is no significant difference in the mean grade point average (GPA) between Basic Grant recipients with different levels of Basic Grant awards at the end of
 - A. the first year
 - B. the second year
 - C. the third year
 - D. the fourth year
- 8. There is no significant difference in mean academic year credit hours earned between Basic Grant recipients with different levels of Basic Grant awards at the end of
 - A. the first year

- B. the second year
- C. the third year
- D. the fourth year
- There is no significant difference in withdrawal rates
 between Basic Grant recipients with different levels of
 Basic Grant awards at the end of
 - A. the first year
 - B. the second year
 - C. the third year
 - D. the fourth year
- 10. There is no significant difference in suspension rates
 between Basic Grant recipients with different levels of
 Basic Grant awards at the end of
 - A. the first year
 - B. the second year
 - C. the third year
 - D. the fourth year
- 11. There is no significant difference in return rates for the fall term between Basic Grant recipients with different levels of Basic Grant awards at the beginning of
 - A. the second year
 - B. the third year
 - C. the fourth year

- D. the fifth year
- E. the sixth year
- 12. There is no significant difference in the graduation rates
 between Basic Grant recipients with different levels of
 Basic Grant awards at the end of
 - A. the fourth year
 - B. the fifth year
- 13. There is no significant difference between the type(s) of financial aid awarded the Basic Grant recipients and their grade point average at the end of
 - A. the first year
 - B. the second year
 - C. the third year
 - D. the fourth year
- 14. There is no significant difference between the type(s) of financial aid awarded the Basic Grant recipients and their academic year credit hours earned at the end of
 - A. the first year
 - B. the second year
 - C. the third year
 - D. the fourth year
- 15. There is no significant difference between the type(s) of financial aid awarded the Basic Grant recipients and their

withdrawal rates at the end of

- A. the first year
- B. the second year
- C. the third year
- D. the fourth year
- 16. There is no significant difference between the type(s) of financial aid awarded the Basic Grant recipients and their suspension rates at the end of
 - A. the first year
 - B. the second year
 - C. the third year
 - D. the fourth year
- 17. There is no significant difference between the type(s) of financial aid awarded the Basic Grant recipients and their return rates for the fall term at the beginning of
 - A. the second year
 - B. the third year
 - C. the fourth year
 - D. the fifth year
 - E. the sixth year
- 18. There is no significant difference between the type(s) of financial aid awarded the Basic Grant recipients and their graduaion rates at the end of

- A. the fourth year
- B. the fifth year

Limitations of the Study

This study is limited to the Basic Educational Opportunity Grant program at Oregon State University. The study deals only with students who entered Oregon State University in the fall of 1975. The study controlled for state residency, regular admission, and age. Age was controlled by limiting the students studied to those who were enrolled in an Oregon high school during the 1974-75 academic year.

Disadvantaged students who entered through the OSU Educational Opportunities Program were not included in the study. Many students in this program do not meet regular admission requirements, are non-residents and were not enrolled in high school the previous year. In addition, finding suitable non-financial aid match students for the control group would be difficult.

While certain factors were controlled in the selection and comparison of groups, i.e., age, sex, residency, high school graduation, academic aptitude and achievement, other potentially important factors related to college success were not considered. These possible influences include location and size of home town, quality of high school, birth order, and parental-family influence.

Conclusions are based on an investigation of freshman Basic

Educational Opportunity Grant recipients at one state university studied over a five year period. Replications of this study at other institutions would demonstrate the extent to which valid generalizations could be made.

Definition of Terms

Oregon State University: Oregon State University (OSU) is one of three state universities in Oregon and is located in Corvallis. A Land Grant and Sea Grant University, it emphasizes studies in scientific, technological, and professional as well as liberal arts fields. Approximately 16,000 undergraduate and graduate students are currently enrolled.

Student Financial Aid: There are three basic types of aid awarded to students. They are grants, loans and work, and are described below:

- Grants are awards that do not require repayment. They are funded from federal, state and local monies.
- 2. Loans require repayment in the future, usually after graduation or when a student ceases to continue the education.
- 3. Work is assistance that is awarded through the College Work-Study Program. This federal program is the major source of need-based employment at Oregon State University.

Financial Aid Package: The combination of one or more types of

student financial aid programs. This combination may contain scholarship(s), grant(s), loan(s), and employment.

Basic Educational Opportunity Grant: This grant is often referred to as Basic Grant or BEOG. It is a federal grant and awards vary from \$200 to \$1800 under current legislation.

Entitlement Program: The Basic Educational Opportunity Grant program is the only federal student financial aid program that is a student's right to receive if the student meets the national eligibility requirements for the program. Receiving the Basic Grant award is not dependent upon the amount of monies available at the school the student may choose to attend.

BEOG Recipient: A student in this study who received a BEOG award during the 1975-76 academic year.

Non-Financial Aid Recipient: A student who did not receive any student financial aid during the course of this study, 1975-80. These students served as the control group for the study.

Persistence: A measure of the degree to which a student moves toward the completion of a baccalaureate degree at Oregon State University.

Graduation: The completion of a baccalaureate degree at Oregon State University in 1979 or 1980.

Fall Return: The enrollment at Oregon State University during the fall term of the academic year.

Suspension: An action by Oregon State University that does not allow a student to continue enrollment for the subsequent term. The suspension rate is the percentage of students suspended during the academic year.

Withdrawal: For the purpose of this study a student is considered to have withdrawn from Oregon State University if the student enrolls for the academic year or a term of the academic year and does not complete the balance of the academic year. Students suspended during the academic year were not considered to have withdrawn for the academic year in which they were suspended.

Grade Point Average (GPA): The average of a student's grades at Oregon State University on a four point scale. The values are: A equals four points, B equals three points, C equals two points, D equals one point, and F equals zero points.

Academic Year: The period of enrollment that includes fall, winter and spring quarters at Oregon State University. It generally begins in late September and concludes in June. Credit hours reported in the study are quarter hours.

Summary

The Basic Educational Opportunity Grant program is currently providing assistance in excess of two billion dollars annually to post-high school students. It is currently the largest single need-based

student financial assistance program in the United States. With the great investment of federal monies there is a need to evaluate the extent to which the Basic Educational Opportunity Grant program meets its objectives.

This study investigated the persistence and non-persistence of Basic Grant recipients at Oregon State University. Possible differences in the persistence of Basic Educational Opportunity Grant recipients based on their Basic Grant award level and type of financial aid award package were also investigated in this study.

II. REVIEW OF RELATED LITERATURE

A review of the literature related to student financial aid reveals very little in the area of Basic Educational Opportunity Grant persistence studies. While there appears to be an increase in the number of publications in student financial aid in recent years, there are few well-designed research projects in the field. Most of the literature covers descriptions of student aid programs, philosophical discussions and only limited research studies.

Basic Educational Opportunity Grant

Currently, only three studies of the Basic Educational Opportunity Grant program are available. Gracie (1976) analyzed the delivery of federal student aid dollars to student recipients and to participating institutions. The programs investigated included the Basic Educational Opportunity Grant program and the college based programs (National Direct Student Loan, Supplemental Educational Opportunity Grant, College Work-Study). The study focused on viewing student aid needs in an institutional aggregate rather than viewing the impact on individual students. The major outcome of the study was that institutional participation in the campus based programs and the Basic Educational Opportunity Grant program was related. This conclusion could be anticipated since the programs are all a part of the same

legislative act.

Miller (1976) conducted a survey of student financial aid directors at four-year, degree-granting institutions in the state of Ohio.

The purpose of the survey was to investigate student aid directors' perceptions of the effects of the Basic Educational Opportunity Grant program on student access, student choice, and institutional policymaking at their schools. Major recommendations of aid directors surveyed were:

- 1. A substantial majority (72%) of the public and private financial aid officers indicated that the current cutoff point for eligibility for Basic Educational Opportunity Grants are inadequate.
- 2. A majority of the reporting directors stated that the current cutoff point was aiding the poor while placing an additional burden on the lower middle class.
- 3. A majority of those questioned stated that the Basic Educational Opportunity Grant Program did not effectively put choice of institution in the hands of the student.
- 4. A majority of public institution directors favored block grants to institutions rather than aid to the individual student. Private financial aid officers stated the opposite viewpoint.
- 5. An almost unanimous number of those queried from the private sector were in favor of a "tuition offset" plan whereby private institutions would receive larger grants than the state-supported schools to cover their proportionately higher tuition rates.
- 6. A majority of those interviewed saw the desirability of increasing the level of funding to make more students eligible and to increase the amount of the grant each student would receive.
- 7. Almost all of those interviewed indicated the potential advantages of one universal financial aid form over the "four or five" that are presently used.
- 8. With one exception, all those interviewed saw great competition between the public and private institutions for the federal student dollar.

9. A number of those interviewed indicated the significance of the Basic Educational Opportunity Grant Program as an "entitlement program" as unique from earlier programs which stressed "student self-help." (p. 8).

Williams (1977) conducted a study of 151 occupational students enrolled in two Michigan community colleges. The self-administered questionnaire compared occupational students who were Basic Educational Opportunity Grant recipients and those who were not recipients. The results of the survey indicated that occupational Basic Grant recipients tended to be 1) non-white, 2) unmarried or living alone without spouse, 3) heads of households and, 4) presently unemployed. They reported a lower mean credit-hour rate of progress and dropped more credit hours than occupational non-Basic Grant students. Occupational non-Basic Grant students were generally 1) white, 2) single or married, 3) heads of families, and 4) employed. The author recommended that a longitudinal study be conducted to determine if the same differences might exist regarding academic progress.

The only longitudinal study of Basic Educational Opportunity

Grant recipients was conducted by Zielke (1977). A total of 102 Basic

Grant recipients were studied at the University of Wyoming. The

study covered the period of four years (1973-77). The 102 Basic

Grant recipients were selected from a total of 108 students receiving

the Basic Grant during the first year of the program, 1973-74. The

Basic Grant recipients were compared to a pair-matched sample of

non-Basic Grant recipients. The freshman subjects were pairmatched on the variables of high school rank, high school grade point
average, sex, residency, year of high school graduation, and completion of GED. The only significant difference noted in the study was
that Basic Grant recipients accumulated more credit hours during the
first semester of enrollment. Graduation rates at the end of four
years were 15 percent for Basic Grant recipients and 19 percent for
non-Basic Grant recipients.

The significance of the Zielke study is limited for several reasons. Basic Grant awards were limited to \$452.00 during the 1973-74 academic year. The study should have been extended a minimum of one additional year. An extension of the length of the study would be desirable since many students do not complete graduation requirements until at least the fifth year of enrollment. Zielke failed to exclude the possible influence of receipt of other student financial assistance in the pair-matched control group. In addition, it would have been possible for any of his control group members to receive a Basic Grant during their second, third, or fourth year of enrollment.

Educational Opportunity Grant

The precursor of the Basic Educational Opportunity Grant Program was the college based Educational Opportunity Grant (EOG) program, 1968-73. The Educational Opportunity Grant program was

established to assist students of "exceptional financial need" who, for lack of financial means, would be unable to attend institutions of higher education (Higher Education Act of 1965, as amended 1968). There are two major differences between Basic Grant and Educational Opportunity Grant programs. The institution selected the EOG recipients as opposed to entitlement and uniform national eligibility determination. In addition, the statute required that Educational Opportunity Grant recipients demonstrate evidence of academic or creative promise and capability of maintaining good standing in their course of study. The Basic Grant program does not require a determination of academic or creative promise, but requires that the student maintain good standing as determined by the institution. A review of the Educational Opportunity Grant program is of interest, with the knowledge that there would be major limitations in drawing direct parallels to the Basic Grant program.

Three longitudinal studies have been conducted on Educational Opportunity Grant program recipients. Thompson (1971) compared EOG recipients with a pair-matched sample of non-recipients over a four year period at the University of Wyoming (1966-70). His major finding was that EOG recipients perform academically as well as non-recipients. Haney (1973) compared 144 initial year EOG recipients with randomly selected freshmen who did not receive financial aid at the University of Northern Colorado. Haney found that a higher

percentage of EOG recipients were graduated from college after a period of six years than non-financial aid recipients. Baber (1974) studied 1619 EOG recipients who entered the University of Missouri-Columbia as first semester freshmen in the fall of 1966, through fall, 1971. He individually pair-matched the subjects with a control group consisting of students who did not receive an EOG their first semester. He found that the EOG recipients group persisted, were graduated and achieved nearly as well as the control group. A major problem with the study is that he failed to limit the control group to students who did not receive other financial aid or Educational Opportunity Grants after the first semester of enrollment.

Boy (1971) sought to determine whether the academic success of incoming freshman EOG recipients at the University of Arizona could be predicted based on data derived from a preceding group of recipients. A measure of socio-economic status was incorporated with the prediction variables. He used the parental contribution figure as the basis of socio-economic index. The academic performance of the EOG recipients was studied over a two and a half year period, 1968 through the 1970 fall semester. Boy indicated that there appeared to be no significant relationship between socio-economic status and attrition rates.

Burnham (1971) studied the persistence of EOG recipients at the University of Arkansas. The study found that EOG recipients were

more successful in remaining in school than non-recipients. He found that the high school attended made a significant contribution to academic success. However, the occupation of parents, presence or absence of a parent from the home, dependent sibling at home, and amount of Educational Opportunity Grant did not make a significant contribution.

Clark (1971) attempted to identify the characteristics of EOG recipients who persisted beyond the freshman year at the University of Mississippi. He studied a total of 182 students who entered school in the academic years 1966-67 and 1967-68. He found that students who persisted had higher high school GPA's and tended to be members of academic organizations in high school compared to those who did not return for their sophomore year.

Herrman (1969) studied 131 freshman students who received Educational Opportunity Grants during the 1966-67 and 1967-68 academic years at Northern Illinois University. He found that students who obtained a GPA of 1.8 or below tended to come from the inner city and to have been graduated from high schools with 80% Black students. These students tended to be overconfident of their ability to do college work and had not made serious plans to attend college until the last one or two years of high school.

Two groups of students receiving the Educational Opportunity

Grant at the University of Oregon were compared by Williams (1975).

The first group enrolled at the University through normal channels and the second group of recipients were specially recruited students who received supportive services. These supportive services included recruitment, special advising, counseling, and tutoring. Williams found that the specially recruited EOG recipients had significantly lower persistence rates as compared to EOG recipients who enrolled through normal channels. The two groups were not matched on academic ability levels.

The U.S. Office of Education sponsored a national study of the Educational Opportunity Program by Friedman and Thompson (1970). They conducted a survey of 9789 students who received Educational Opportunity Grants during the 1969-70 academic year. Student data forms were completed by 580 institutions on 10, 166 EOG recipients. In addition, 1620 institutional financial aid administrators completed questionnaires which represented 84% of the participating institutions. While there was a wide variation in retention rates of EOG students among different types of institutions, the study found there was little difference between EOG freshmen and non-recipient freshmen in reenrollment rates for the sophomore year. Retention rates were lowest in two-year institutions and highest in private universities. The major conclusion of the study was the Educational Opportunity Grant program was successful in meetings its goal of enabling students of exceptional financial need to obtain an education beyond high school.

Summary

A limited number of research studies have been conducted in the areas of the Basic Educational Opportunity Grant program and the Educational Opportunity Grant program. Only one longitudinal study of the Basic Educational Opportunity Grant program has been published. Three longitudinal studies have been conducted on the Educational Opportunity Grant program.

Since earlier studies in the area are limited in number and have often failed to properly control possible intervening variables, it is apparent that additional research is desirable.

III. RESEARCH AND METHODOLOGY

In this chapter the student groups, the sources of the data, the treatment of data, the development of a GPA prediction formula, and the statistical analyses employed in testing the hypotheses are described.

The basic design of the study had two segments. First, two groups of students at Oregon State University, Basic Educational Opportunity Grant recipients and non-aid recipients, were compared to determine if they differed in terms of 1) academic year mean GPA, 2) academic year mean completed credit hours, 3) withdrawal rates, 4) suspension rates, 5) return rates for the next fall term, and 6) graduation rates.

The second part of the study investigated variables of amount of Basic Grant award and types of aid packaged with the Basic Grant.

The same six indicators of persistence and achievement were studied.

Conclusions regarding the effects of student financial aid could be drawn by controlling for the variables of sex, age, high school academic achievement, and aptitude.

Description of Student Groups

Basic Educational Opportunity Grant Recipients

The Basic Educational Opportunity Grant recipients included in the study entered Oregon State University as freshmen in

September, 1975. A systematic sample of 150 Basic Grant recipients were selected from an alphabetized list of students receiving Basic Grants during the 1975-76 academic year. Every second name was selected from the list of recipients. The sample of freshman Basic Grant recipients were enrolled as Oregon high school seniors during the 1974-75 academic year. The sample size of 150 comprised 37% of the 401 freshman Basic Grant recipients at Oregon State University during the 1975-76 year. The sample contained 84 female and 66 male students.

The study was designed to follow students to the point that they withdrew or were graduated from Oregon State University over a period of five years, 1975-1980.

A total of 57 Educational Opportunity Program (EOP) students receiving Basic Grants for their freshman year were not included in the study because of the difficulty of providing a matching group of non-aided students.

Non-Aid Recipients

A systematic sample of 536 students was selected from the freshman class entering Oregon State University in September, 1975.

Of the 2877 freshmen, every fifth name was selected from an alphabetized list of students. Students who were not enrolled as Oregon high school seniors during the 1974-75 academic year were eliminated from

the sample.

A freshman year GPA prediction formula was developed for both male and female students. Data used to generate the formula were the following three factors: 1) high school GPA, 2) SAT-verbal score, and 3) SAT-mathematical score.

The resulting GPA predicting formulae were used to select the 150 pair-matched control group of non-aid recipients. The resulting pairing of Basic Grant recipients and non-aid recipients controlled for predicted college achievement, sex, residency, age, and year of high school graduation.

Sources of Data

Data for the study were collected from student records in the OSU Financial Aid Office and the Center for Research on Student Life and Development, Office of Student Services. The Financial Aid Office records contained the names, sex, type of aid awarded and award amount for each student receiving assistance at Oregon State University. The data regarding entering students' high school GPA, Scholastic Aptitude Test scores, and student academic progress while enrolled at OSU were contained in the records of the Center for Research on Student Life and Development.

Treatment of Data

Preparation of the Data

The OSU Computer Center Control Data Corporation Cyber computer was utilized in the processing and data analysis. For both the sample of freshman Basic Grant recipients and pair-matched control group of non-aid recipients the following data were available:

- 1. Social Security Number
- 2. Name
- 3. Sex
- 4. High School GPA
- 5. Scholastic Aptitude Test--Verbal score
- 6. Scholastic Aptitude Test--Mathematics score
- 7. Mean Grade Point Average (GPA) at the end of
 - A. the first year
 - B. the second year
 - C. the third year
 - d. the fourth year
- 8. Mean academic year credit hours earned at the end of
 - A. the first year
 - B. the second year
 - C. the third year
 - D. the fourth year

- 9. Whether the student withdrew from OSU
 - A. the first year
 - B. the second year
 - C. the third year
 - D. the fourth year
- 10. Whether the student was suspended from OSU
 - A. the first year
 - B. the second year
 - C. the third year
 - D. the fourth year
- 11. Whether the student returned for
 - A. the second year
 - B. the third year
 - C. the fourth year
 - D. the fifth year
 - E. the sixth year
- 12. Whether the student was graduated by the end of
 - A. the fourth year
 - B. the fifth year

For each Basic Grant recipient the following data were available:

- 1. The Basic Grant award amount
- 2. The types of financial aid awarded. (There are eight possible aid packages listed on page 5).

Prediction Formula

It was felt that before data were gathered and analyzed, a student's potential for academic success in college should be built into the research design. If dependent variables of academic success in college, such as GPA and credit hours completed each year of college enrollment, were linearly related to predicted achievement, differences later found in the Basic Grant group and the non-aid recipient group might be due in whole or in part to differences in predicted academic success in college. In summary, the Basic Grant group and non-aid recipient group might be of different academic ability levels.

A prediction formula was developed to predict an individual's potential for academic success at Oregon State University. Because of changes in mean GPA in recent years, a formula was developed based on data for the entering freshman class at Oregon State University, fall term, 1975. Separate prediction formulae were developed for male and female students.

A systematic sample of 536 freshman students who entered in the fall, 1975, were selected to develop the prediction formulae. Only students who attended Oregon high schools during the 1974-75 academic year and met regular admission requirements were included in the sample.

Two correlation matrices were generated for the following four variables:

- 1. high school GPA
- 2. Scholastic Aptitude Test--Verbal score
- 3. Scholastic Aptitude Test--Mathematic score
- 4. OSU freshman year GPA

The prediction formulae sample of 536 students contained 251 females and 285 males.

Using these correlation matrices two multiple regression equations were developed to predict OSU freshman GPA for the 1975-76 academic year. The equations are shown below.

Predicted OSU freshman year GPA for females

- = .84437 x high school GPA
- + .0017417 x SAT--V score
- .000088616 x SAT--M score
- 1.0467

Predicted OSU freshman year GPA for males

- = .84352 x high school GPA
- + .00023167 x SAT--V score
- $+.0012587 \times SAT--M score$
- 1.0043

Analyses Employed

The type of analysis used was determined by the nature of the data associated with each hypothesis.

Hypotheses one, two, seven, eight, thirteen and fourteen were continuous variables, therefore analysis of variance was conducted. Hypotheses three through six, nine through twelve, and fifteen through eighteen were the binomial variables of withdrawal, suspension, return rate and graduation rate. Chi-square analyses were used to test for significant differences.

Summary

This study compared Basic Educational Opportunity Grant recipients with non-aid recipients to determine if there were differences in terms of 1) academic year mean GPA, 2) academic year mean completed credit hours, 3) withdrawal rates, 4) suspension rates, 5) return rates for the next fall term, and 6) graduation rates.

The second part of the study investigated the variables of amount of Basic Grant award and the types of aid packaged with the Basic Grant. The same six indicators of persistence and achievement were studied.

The data were analyzed at the OSU Computer Center. Freshman year GPA prediction formulae were developed for female and male students. These formulae were used to select the pair-matched control group of non-aid recipients.

Analysis of variance and chi-square analysis were used to test the hypotheses stated in Chapter I. The . 05 level of confidence was

accepted as being significant. Actual levels of confidence were reported.

IV. RESULTS AND DISCUSSION

The results of the statistical analyses of each hypothesis tested are reported and discussed in this chapter. The hypotheses are stated in Chapter I.

Hypotheses one through seven related to differences between

Basic Educational Opportunity Grant recipients and the pair-matched
group of non-recipients. The students studied entered Oregon State
University as freshmen in the fall of 1975. Hypotheses eight through
twelve related to differences between Basic Grant recipients at different
ent Basic Grant award levels. Hypotheses thirteen through eighteen
related to differences between Basic Grant recipients with different
types of financial aid award packages.

Results

Hypothesis One

Basic Educational Opportunity Grant recipients are compared to non-financial aid recipients to determine if there are any significant differences in mean grade point averages during each of the four academic years 1975-76 through 1978-79.

The results are reported in Table 1. Basic Grant recipients achieved higher mean academic year grade point averages in the first, second and third academic years of the study. During the fourth year

non-aid recipients achieved a higher grade point average. However, the only significant difference was for the third year mean grade point average. Therefore the hypothesis would be rejected for third year and accepted for the first, second and fourth years.

Table 1. Comparison of Mean Year GPA: BEOG recipients and Non-aid Recipients

	Student Group	Number of Students	Mean Year GPA	F Value	P
First	Year (1975-76) BEOG Recipients	150	2.5121	. 523	NS
B.	Non-Aid Recipients	150	2. 4533		
Secon A.	nd Year (1976-77) BEOG Recipients	98	2.6550	. 221	NS
В.	Non-Aid Recipients	94	2.6093	. 221	140
Third	d Year (1977-78) BEOG Recipients	81	2.8904	4.321	. 0393
в.	Non-Aid Recipients	73	2.6781	4. 321	. 03 73
Four A.	th Year (1978-79) BEOG Recipients	72	2.8968		
в.	Non-Aid Recipients	63	3.0049	1.171	NS

Hypothesis Two

The results of the comparison of Basic Grant recipients and nonaid recipients to determine significant differences in mean academic year credit hours earned are listed in Table 2. The mean academic year credit hours earned are higher for Basic Grant recipients during the first and second years of the study. The non-financial aid recipients earned more credit hours on average during the third and fourth years of the study. The hypothesis would be accepted since no differences were significant.

Table 2. Comparison of Mean Academic Year Credit Hours Earned: BEOG Recipients and Non-Aid Recipients

	Student Group	Number of Students	Number of Hours (Mean)	F Value	P
First	Year (1975-76)				
Α.	BEOG Recipients	150	34.4467	1.594	NS
В.	Non-Aid Recipients	150	32.9467	1.574	142
Seco	nd Year (1976-77)				
Α.	BEOG Recipients	98	37.1020	. 362	NS
в.	Non-Aid Recipients	94	36.1064		
Third	d Year (1977-78)				
Α.	BEOG Recipients	81	37.2346	0/.0	NC
B.	Non-Aid Recipients	73	37.6575	. 06 0	NS
Four	th Year (1978-79)				
A.	BEOG Recipients	72	36.3667	022	NIC
В.	Non-Aid Recipients	63	38.3016	. 833	NS

Hypothesis Three

The withdrawal rates of Basic Grant recipients and non-financial aid recipients are reported in Table 3. Although non-financial aid

recipients withdrew more often in the first, second, and third years, there are no significant differences. Therefore the hypothesis is accepted.

Table 3. Comparison of Withdrawal Rates: BEOG Recipients and Non-Aid Recipients

	Student Group	Number of Students	Percent	Chi-square Value	P
First	Year (1975-76) BEOG Recipients	23	15.3	. 58158	NS
В.	Non-Aid Recipients	29	19.3	. 30130	110
Secon A.	nd Year (1976-77) BEOG Recipients	8	5.3	. 22476	NS
В.	Non-Aid Recipients	11	7. 3	. 224 /6	142
Third	d Year (1977-78) BEOG Recipients	6	4.0	20070	NIC
в.	Non-Aid Recipients	9	6.0	. 28070	NS
Four	th Year (1978-79)				
Α.	BEOG Recipients	5	3.3	0	NIC
в.	Non-Aid Recipients	4	2.7	0	NS

Hypothesis Four

The suspension rates of Basic Grant recipients and non-financial aid recipients are reported in Table 4. It should be noted that only a small number of suspensions are reported for the second, third, and fourth years. Discussion of this concern is on page 63.

The hypothesis would be accepted since none of the differences were significant.

Table 4. Comparison of Suspension Rates: BEOG Recipients and Non-Aid Recipients

	Student Group	Number of Students	Percent	Chi-square Value	P
Firs	t Year (1975-76)			-	· · · · · · · · · · · · · · · · · · ·
Α.	BEOG Recipients	6	4.0	1.15582	NS
в.	Non-Aid Recipients	2	1.3	1.15562	145
Seco	nd Year (1976-77)				
Α.	BEOG Recipients	3	2.0	0	NIC
в.	Non-Aid Recipients	2	1.3	0	NS
Thir	d Year (1977-78)				
<u>A</u> .	BEOG Recipients	0	0	/	
в.	Non-Aid Recipients	2	1.3	. 50336	NS
Four	th Year (1978-79)				
Α.	BEOG Recipients	2	1.3	_	
в.	Non-Aid Recipients	1	. 7	0	NS

Hypothesis Five

The return rates of Basic Grant recipients and non-financial aid recipients are reported in Table 5. The fall term return rates of BEOG recipients were higher for each year, fall 1976, through fall, 1980. The differences were significant only for the sixth year. The hypothesis would be accepted for the second, third, fourth and fifth

years. The hypothesis would be rejected for the sixth year and it would be concluded that Basic Grant recipients persisted in their pursuit of a degree at a higher rate after five years than non-financial aid recipients.

Table 5. Comparison of Fall Term Return Rates: BEOG Recipients and Non-Aid Recipients

	Student Group	Number of Students	Percent	Chi-square Value	P
Secon	nd Year (Fall 1976)	-	,		
Α.	BEOG Recipients	94	62.7	. 34923	NS
B.	Non-Aid Recipients	88	58.7	. 34 / 23	145
Third	d Year (Fall 1977)				
Α.	BEOG Recipients	75	50.0	. 21357	NS
В.	Non-Aid Recipients	70	46.7	. 2133	140
Four	th Year (Fall 1978)				
Α.	BEOG Recipients	66	44.0	. 34209	NS
в.	Non-Aid Recipients	60	40.0	. 34207	1/2
Fifth	<u>Year</u> (Fall 1979)				
Α.	BEOG Recipients	4 6	30.7	. 25903	NS
В.	Non-Aid Recipients	41	27.3	. 23 703	7/2
Sixth	Year (Fall 1980)				
Α.	BEOG Recipients	14	9.3	6. 23571	. 0125
В.	Non-Aid Recipients	3	2.0	0.23371	. 0123

Hypothesis Six

Table 6 lists the data for graduation rates for Basic Grant recipients and non-financial aid recipients. Four more Basic Grant recipients graduated at the end of the fourth year, 1979, than did non-financial aid recipients. During the fifth year, 1980, one more non-financial aid recipient was graduated. The combined graduation rate for the two years indicates slightly more BEOG recipients completed graduation requirements. Since the differences are not significant, the hypothesis is accepted.

Table 6. Comparison of Graduation Rates: BEOG Recipients and Non-Aid Recipients

	Student Group	Number of Students	Percent	Chi-square Value	P
Four	th Year (1979)	<u> </u>		•	
Α,	BEOG Recipients	24	16.0	. 23970	NS
в.	Non-Aid Recipients	20	13.3	. 23970	140
Fifth	Year (1980)				
Α.	BEOG Recipients	33	22.0	0. 0	NS
в.	Non-Aid Recipients	34	22.7	0.0	140
Com	bined (1979, 1980)				
Α.	BEOG Recipients	57	38.0	05 73 0	NIC
в.	Non-Aid Recipients	54	36.0	. 05 72 0	NS

Hypotheses Seven through Twelve

Comparisons of Basic Educational Opportunity Grant recipients at different levels of Basic Grant awards are reported in Tables 7 through 12. The data were grouped in five award level ranges to facilitate analysis. No significant differences were found between the different levels of Basic Grant awards. Caution is advised in reviewing the withdrawal rates in Table 9 and suspension rates in Table 10. Since the expected number is small, the usefulness of the data is limited. (See discussion on page 63.)

Hypotheses seven through twelve are accepted with the exception of Hypothesis Ten, third year suspension rates. No conclusions can be drawn for the third year since no Basic Grant recipients were suspended.

Table 7. Comparison of Mean Year GPA: BEOG Recipients with Different Levels of BEOG Awards

ВЕ	EOG Award Level	Number of Students	Mean Year GPA	F Value	P
Firs	st Year (1975-76)				
1	\$ 226- 376	29	2.6148	. 834	NS
2	426- 576	25	2.6452		
3	626- 776	9	2.5833		
4	826- 976	22	2.5441		
5	1026-1088	65	2.3945		
Seco	ond Year (1976-77)				
1	\$ 226- 376	21	2.9295	1.393	NS
2	426- 576	17	2.7106		
3	626- 776	7	2.6557		
4	826- 976	14	2.5771		
5	1026-1088	39	2.5108		
Thi	rd Year (1977-78)				
1	\$ 226- 376	17	3.1165	.907	NS
2	426- 576	14	2.7836		
3	626- 776	7	2.6614		
4	826- 976	12	2.9200		
5	1026-1088	31	2.8548		
Fou	rth Year (1978-79)				
1	\$ 226- 376	15	3.1187	1.090	NS
2	426- 576	11	2.9809		
3	626- 776	7	2.6143		
4	826 - 976	12	2.7300		
5	1026-1088	27	2.8867		

Table 8. Comparison of Mean Academic Year Credit Hours Earned: BEOG Recipients with Different Levels of BEOG Awards

В	EOG Award Level	Number of Students	Number of Hours (Mean)	F Value	P
Fir	st Year (1975-76)				_
1	\$ 226- 376	29	37.0696	. 901	NS
2	426- 576	25	34.4000		
3	626- 776	9	36.5556		
4	826- 976	22	33.4545		
5	1026-1088	65	33.3385		
Sec	ond Year (1976-77)				
1	\$ 226- 376	21	37.9524	.187	NS
2	426- 576	17	37. 7647		
3	626- 776	7	38.2857		
4	826- 976	14	34.8571		
5	1026-1088	39	36. 9487		
Thi	rd Year (1977-78)				
1	\$ 226- 376	17	40.1176	. 801	NS
2	426- 576	14	37.2143		
3	626- 776	7	33.1429		
4	826- 976	12	39. 0833		
5	1026-1088	31	35.8710		
Fou	rth Year (1978-79)				
1	\$ 226- 376	15	39.0000	.820	NS
2	426- 576	11	33.0000		
3	626- 776	7	34.5714		
4	826- 976	12	36.2593		
5	1026-1088	27	36.2593		

Table 9. Comparison of Withdrawal Rates: BEOG Recipients with Different Levels of BEOG Awards

В	EOG Award Level	Number of Students	Percent	Chi-square Value	P
Fir	st Year (1975-76)				
1	\$ 226- 376	4	2.7	2.52434	NS
2	426- 576	3	2.0		
3	626 - 776	0	0		
4	826- 976	4	2.7		
5	1026-1088	12	8.0		
Sec	ond Year (1976-77)				
1	\$ 226- 376	3	2.0	4.77097	NS
2	426- 576	2	1.3		
3	626- 776	0	0		
4	826- 976	2	1.3		
5	1026-1088	1	. 7		
Thi	rd Year (1977-78)				
1	\$ 226- 376	0	0	3.59646	NS
2	426- 576	2	1.3		
3	626- 776	1	. 7		
4	826- 976	1	. 7		
5	1026-1088	2	1.3		
Fou	rth Y.ear (1978-79)				
1	\$ 226- 376	1	. 7	. 45959	NS
2	426- 576	1	. 7		
3	626- 776	0	0		
4	826- 976	1	. 7		
5	1026-1088	2	1.3		

Table 10. Comparison of Suspension Rates: BEOG Recipients with Different Levels of BEOG Awards

В	EOG Award Level	Number of Students	Percent	Chi-square Value	P
Firs	st Year (1975-76)				
1	\$ 226- 376	2	1.3	3.02175	NS
2	426- 576	0	0		
3	626- 776	1	. 7		
4	826- 976	1	. 7		
5	1026-1088	2	1.3		
Seco	ond Year (1976-77)				
1	\$ 226- 376	0	0	2.39760	NS
2	426- 576	0	0		
3	626- 776	0	0		
4	826- 976	1	. 7		
5	1026-1088	2	1.3		
Thi	rd Year (1977-78)				
1	\$ 226- 376	0	0	NA	NA
2	426- 576	0	0		
3	626 - 776	0	0		
4	826- 976	0	0		
5	1026-1088	0	0		
Fou	rth Year (1978-79)				
1	\$ 226- 376	0	0	9.45 94 6	NS
2	426- 576	1	. 7		
3	626 - 776	1	. 7		
4	826 - 976	0	0		
5	1026-1088	0	0		

Table 11. Comparison of Return Rates: BEOG Recipients with Different Levels of BEOG Awards

BEOG Award Level	Number of Students	Percent	Chi-square Value	P
Second Year (Fall 1976)				
1 \$ 226- 376	20	13.3	2.00074	NS
2 426- 576	16	10.7		
3 626- 776	7	4.7		
4 826- 976	13	8.7		
5 1026-1088	38	25.3		
Third Year (Fall 1977)				
1 \$ 226- 376	15	10.0	5.67380	NS
2 426- 576	15	10.0		
3 626 - 776	7	4.7		
4 826- 976	11	7.3		
5 1026-1088	27	18.0		
Fourth Year (Fall 1978)				
1 \$ 226- 376	14	9. 3	3.48466	NS
2 426- 576	9	6. 0		
3 626- 776	6	4.0		
4 826 - 976	11	7. 3		
5 1026-1088	26	17.3		
Fifth Year (Fall 1979)				
1 \$ 226- 376	9	6.0	1.77611	NS
2 426- 576	9	6.0		
3 626- 776	4	2.7		
4 826- 976	7	4.7		
5 1026-1088	17	11.3		
Sixth Year (Fall 1980)				
1 \$ 226- 376	2	1.3	2.71105	NS
2 426- 576	2	1.3		
3 626- 776	2	1.3		
4 826- 976	3	2.0		
5 1026-1088	5	3.3		

Table 12. Comparison of Graduation Rates: BEOG Recipients with Different Levels of BEOG Awards

BE	COG Award Level	Number of Students	Percent	Chi-square Value	P
Four	rth Year (1979)				
1	\$ 226- 376	6	4.0	1.47107	NS
2	426- 576	4	2.7		
3	626- 776	2	1.3		
4	826- 976	4	2. 7		
5	1026-1088	8	5.3		
Fifth	<u> Year</u> (1980)				
1	\$ 226- 376	8	5.3	1.74035	NS
2	426- 576	5	3.3		
3	626- 776	3	2.0		
4	826- 976	5	3, 3		
5	1026-1088	12	8. 0		

Hypotheses Thirteen through Eighteen

The different types of financial aid packages that the Basic Grant recipients are awarded were compared. The results are reported in Tables 13 through 18. The types of aid packages were coded as follows:

- 1. Basic Grant only
- Basic Grant and other grant(s)/scholarship(s)
- 3. Basic Grant and work
- 4. Basic Grant and loan(s)

- 5. Basic Grant, loan(s) and work
- 6. Basic Grant, other grant(s)/scholarship(s), and loan(s)
- 7. Basic Grant, other grant(s)/scholarship(s), and work
- 8. Basic Grant, other grant(s)/scholarship(s), loan(s), work
 Again caution is advised in reviewing the withdrawal rates in Table 15
 and the suspension rates in Table 16. Since the expected number is
 small, the usefulness of the data is limited. (See discussion on page
 63.)

Significant differences were found in the second year return rate and the fourth year graduation rate. Therefore hypotheses thirteen through eighteen are accepted with exceptions of the second year of seventeen, and fourth year of eighteen. No conclusions may be drawn for the third year suspension rate of hypothesis sixteen because no Basic Grant recipients were suspended that year.

Table 13. Comparison of Mean Year GPA: BEOG Recipients with Different Types of Financial Aid Awards

Fi	Type of nancial Aid Award	Number of Students	Mean Year GPA	F Value	P
Fi	rst Year (1975-76)				
1.	BEOG only	16	2.6806	1.349	NS
2.	BEOG, grant/scholarship	31	2. 7458		
3.	BEOG, work	10	2.5330		
4.	BEOG, loan(s)	5	2.5760		
5.	BEOG, loan(s), work	8	2.2575		
6.	BEOG, grant/scholarship, and loan	40	2.3150		
7.	BEOG, grant/scholarship, and work	23	2.5962		
8.	BEOG, grant/scholarship, loan and work	17	2. 3676		
<u>Se</u>	cond Year (1976-77)				
1.	BEOG only	11	2.6164	. 734	NS
2.	BEOG, grant/scholarship	25	2. 7252		
3.	BEOG, work	5	2. 7540		
4.	BEOG, loan(s)	5	2. 7840		
5.	BEOG, loan(s), work	2	3.0200		
6.	BEOG, grant/scholarship, and loan	23	2.4600		
7.	BEOG, grant/scholarship, and work	16	2. 5475		
8.	BEOG, grant/scholarship, loan and work	11	2. 9282		

Table 13. (Continued)

Award	Number of Students	Mean Year GPA	F Value	P
977-78)				
	10	2.8640	2.119	NS
nt/scholarship	19	3.0821		
·k	6	3.1917		
n(s)	5	2.9020		
n(s), work	0	NA		
nt/scholarship,	20	2.6215	•	
nt/scholarship,	12	2.6325		
· ·	9	3. 2489		
1978-79)				
	8	2.8838	1.985	NS
nt/scholarship,	16	2.9750		
:k	6	3.1283		
n(s)	4	3.1525		
n(s), work	0	NA		
.nt/scholarship,	, 18	2.5889		
.nt/scholarship,	, 12	2.7542		
	, 8	3.3587		
	nt/scholarship, nt/scholarship, ork 1978-79) nt/scholarship, rk n(s) n(s), work nt/scholarship, nt/scholarship,	Award Students 977-78) 10 nt/scholarship 19 rk 6 n(s) 5 n(s), work 0 nt/scholarship, 20 nt/scholarship, 12 nt/scholarship, 9 ork 1978-79) 8 nt/scholarship, 16 rk 6 n(s) 4 n(s), work 0 nt/scholarship, 18 nt/scholarship, 18	Award Students GPA 977-78) 10 2.8640 nt/scholarship 19 3.0821 nk 6 3.1917 n(s) 5 2.9020 n(s), work 0 NA nt/scholarship, 20 2.6215 nt/scholarship, 12 2.6325 nt/scholarship, 9 3.2489 ork 1978-79) 8 2.8838 nt/scholarship, 16 2.9750 rk 6 3.1283 n(s) 4 3.1525 n(s), work 0 NA nt/scholarship, 18 2.5889 nt/scholarship, 18 2.5889 nt/scholarship, 12 2.7542	Award Students GPA 977-78) 10 2.8640 2.119 nt/scholarship 19 3.0821 n(s) 5 2.9020 n(s), work 0 NA nt/scholarship, 20 2.6215 nt/scholarship, 12 2.6325 nt/scholarship, 9 3.2489 nt/scholarship, 16 2.9750 n(s) 4 3.1525 n(s) work 0 NA nt/scholarship, 16 2.9750 n(s) 4 3.1525 n(s) work 0 NA nt/scholarship, 18 2.5889 nt/scholarship, 18 2.5889 nt/scholarship, 12 2.7542

Table 14. Comparison of Mean Academic Year Credit Hours Earned: BEOG Recipients with Different Types of Financial Aid Awards

Type of Financial Aid Award	Number of Students	Number of Hours (Mean)	F Value	P
First Year (1975-76)				
1. BEOG only	16	33.8125	1.376	NS
2. BEOG, grant/scholarship	31	36.3548		
3. BEOG, work	10	34, 7000		
4. BEOG, loan(s)	5	36.2000		
5. BEOG, loan(s), work	8	24.7500		
BEOG, grant/scholarship and loan	, 40	34.7750		
BEOG, grant/scholarship and work	, 23	34.6522		
BEOG, grant/scholarship loan and work	, 17	34.4118		
Second Year (1976-77)				
1. BEOG only	11	31.5455	1.353	NS
2. BEOG, grant/scholarship	25	39.7200		
3. BEOG, work	5	41.8000		
4. BEOG, loan(s)	5	42.6000		
5. BEOG, loan(s), work	2	28.0000		
BEOG, grant/scholarship and loan	, 23	37. 2609		
 BEOG, grant/scholarship and work 	, 16	33.1250		
8. BEOG, grant/scholarship loan and work	, 11	39. 1818		

Table 14. (Continued)

Type of Financial Aid Award	Number of Students	Number of Hours (Mean)	F Value	P
<u>Third Year</u> (1977-78)				
1. BEOG only	10	40.8000	. 478	NS
2. BEOG, grant/scholarship	19	38.4737		
3. BEOG, work	6	33.6667		
4. BEOG, loan(s)	5	38.4000		
5. BEOG, loan(s), work	0	NA		
BEOG, grant/scholarship, and loan	20	35.2000		
BEOG, grant/scholarship, and work	12	37. 5833		
BEOG, grant/scholarship, loan and work	9	36. 4444		
Fourth Year (1978-79)				
1. BEOG only	8	36.8750	. 492	NS
2. BEOG, grant/scholarship	16	38.8750		
3. BEOG, work	6	31.1667		
4. BEOG, loan(s)	4	38.2500		
5. BEOG, loan(s), work	0	NA		
BEOG, grant/scholarship, and loan	18	35.5556		
BEOG, grant/scholarship, and work	12	36.2500		
8. BEOG, grant/scholarship, loan and work	. 8	38.5000		

Table 15. Comparison of Withdrawal Rates: BEOG Recipients with Different Types of Financial Aid Awards

Type of Financial Aid Award	Number of Students	Percent	Chi-square Value	P
First Year (1975-76)				
1. BEOG only	2	1.3	8.90744	NS
2. BEOG, grant/scholarship	5	3.3		
3. BEOG, work	1	. 7		
4. BEOG, loan(s)	C	0		
5. BEOG, loan(s), work	4	2.7		
BEOG, grant/scholarship and loan	, 6	4. 0		
BEOG, grant/scholarship and work	, 3	2.0		
BEOG, grant/scholarship loan and work	, 2	1.3		
<u>Second Year</u> (1976-77)				
1. BEOG only	2	1.3	11. 93 944	NS
2. BEOG, grant/scholarship	0	0		
3. BEOG, work	0	0		
4. BEOG, loan(s)	0	0		
5. BEOG, loan(s), work	0	0		
6. BEOG, grant/scholarship and loan	, 1	. 7		
BEOG, grant/scholarship and work	, 4	2.7		
8. BEOG, grant/scholarship loan and work	, 1	. 7		

Table 15. (Continued)

Fi	Type of nancial Aid Award	Number of Students	Percent	Chi-square Value	P
Th	ird Year (1977-78)				
1.	BEOG only	0	0	10.44483	NS
2.	BEOG, grant/scholarship	1	. 7	•	
3.	BEOG, work	2	1.3		
4.	BEOG, loan(s)	0	0		
5.	BEOG, loan(s), work	1	. 7		
6.	BEOG, grant/scholarship and loan	1	. 7		
7.	BEOG, grant/scholarship and work	0	0		
8.	BEOG, grant/scholarship loan and work	, 1	. 7		
Fo	urth Year (1978-79)				
1.	BEOG only	1	. 7	3.47322	NS
2.	BEOG, grant/scholarship	1	. 7		
3.	BEOG, work	1	. 7		
4.	BEOG, loan(s)	0	0		
5.	BEOG, loan(s), work	0	0		
6.	BEOG, grant/scholarship and loan	, 1	. 7		
7.	BEOG, grant/scholarship and work	0	0		
8.	BEOG, grant/scholarship loan and work	1	. 7		

Table 16. Comparison of Suspension Rates: BEOG Recipients with Different Types of Financial Aid Awards

Type of Financial Aid Award	Number of Students	Percent	Chi-square Value	P
First Year (1975-76)				
1. BEOG only	0	0	12.74510	NS
2. BEOG, grant/scholarshi	ip 0	0		
3. BEOG, work	1	. 7		
4. BEOG, loan(s)	0	0		
5. BEOG, loan(s), work	0	0		
BEOG, grant/scholarshi and loan	ip 2	1.3		
 BEOG, grant/scholarshi and work 	ip, 0	0		
8. BEOG, grant/scholarshi	ip, 3	2. 0		
<u>Second Year</u> (1976-77)				
1. BEOG only	0	0	2.07838	NS.
2. BEOG, grant/scholarshi	ip l	. 7		
3. BEOG, work	0	0		
4. BEOG, loan(s)	0	0		
5. BEOG, loan(s), work	0	0		
6. BEOG, grant/scholarshi	ip, 1	. 7		
BEOG, grant/scholarshi and work	ip, l	. 7		
8. BEOG, grant/scholarshi	ip, 0	0		

Table 16. (Continued)

Fi	Type of nancial A		Number of Students	Percent	Chi-square Value	P
Th	nird Year	(1977-78)				
1.	BEOG on	ly	0	0	NA	NA
2.	BEOG, g	rant/scholarship	0	0		
3.	BEOG, w	ork	0			
4.	BEOG, le	oan(s)	0	0		
5.	BEOG, le	oan(s), work	0	0		
6.	BEOG, g	rant/scholarship	0	0		
7.	BEOG, g and work	rant/scholarship	, 0	0		
8.	BEOG, g loan and	rant/scholarship work	, 0	0		
Fc	urth Year	(1978-79)				
1.	BEOG on	ly	1	. 7	4.62416	NS
2.	BEOG, g	rant/scholarship	0	0		
3.	BEOG, w	ork	0	0		
4.	BEOG, lo	oan(s)	0	0		
5.	BEOG, lo	oan(s), work	0	0		
6.	BEOG, gand loan	rant/scholarship	, 1	. 7		
7.	BEOG, gand work	rant/scholarship	, 0	0		
8.	BEOG, gr	rant/scholarship work	, 0	0		

Table 17. Comparison of Return Rates: BEOG Recipients with Different Types of Financial Aid Awards

Type of Financial Aid Award	Number of Students	Percent	Chi-square Value	P
Second Year (Fall 1976)		-		
1. BEOG only	9	6.0	14.17953	. 0481
2. BEOG, grant/scholarship	25	16.7		
3. BEOG, work	5	3.3		
4. BEOG, loan(s)	5	3.3		
5. BEOG, loan(s), work	2	1.3		
BEOG, grant/scholarship and loan	, 22	14.7		
BEOG, grant/scholarship and work	, 15	10.0		
8. BEOG, grant/scholarship loan and work	, 11	7.3		
Third Year (Fall 1977)				
1. BEOG only	10	6. 7	12.04045	NS
2. BEOG, grant/scholarship	17	11.3		
3. BEOG, work	6	4.0		
4. BEOG, loan(s)	5	3.3		
5. BEOG, loan(s), work	1	. 7		
6. BEOG, grant/scholarship and loan	, 18	12.0		
 BEOG, grant/scholarship and work 	, 10	6. 7		
8. BEOG, grant/scholarship loan and work	, 8	5. 3		

Table 17. (Continued)

Type of Financial Aid Award	Number of Students	Percent	Chi-square Value	P
Fourth Year (Fall 1978)				
1. BEOG only	8	5.3	10.57025	NS
2. BEOG, grant/scholarship	16	10.7		
3. BEOG, work	5	3.3		
4. BEOG, loan(s)	4	2.7		
5. BEOG, loan(s), work	0	0		
BEOG, grant/scholarship, and loan	16	10.7		
BEOG, grant/scholarship, and work	9	6.0		
BEOG, grant/scholarship, loan and work	8	5.3		
Fifth Year (Fall 1979)				
1. BEOG only	7	4.7	11.40615	NS
2. BEOG, grant/scholarship	5	3.3		
3. BEOG, work	5	3.3		
4. BEOG, loan(s)	2	1.3		
5. BEOG, loan(s), work	0	0		
BEOG, grant/scholarship, and loan	14	9.3		
 BEOG, grant/scholarship, and work 	9	6.0		
8. BEOG, grant/scholarship, loan and work	4	2.7		

Table 17. (Continued)

			Value	
Sixth Year (Fall 1980)	-			
l. BEOG only	1	. 7	2.64187	NS
2. BEOG, grant/scholarship	4	2.7		
3. BEOG, work	1	. 7		
4. BEOG, loan(s)	0	0		
5. BEOG, loan(s), work	0	0		
6. BEOG, grant/scholarship, and loan	3	. 7		
7. BEOG, grant/scholarship, and work	3	. 7		
 BEOG, grant/scholarship, loan and work 	2	1.3		

Table 18. Comparison of Graduation Rates: BEOG Recipients with Different Types of Financial Aid Awards

Financial Aid Award	Number of Students	Percent	Chi-square Value	
Fourth Year (1979)				
1. BEOG only	1	. 7	15.24438	. 0330
2. BEOG, grant/scholarship	8	5.3		
3. BEOG, work	1	. 7		
4. BEOG, loan(s)	3	2.0		
5. BEOG, loan(s), work	0	0		
BEOG, grant/scholarship, and loan	3	2.0		
BEOG, grant/scholarship, and work	4	2.7		
BEOG, grant/scholarship, loan and work	4	2. 7		
Fifth Year (1980)				
1. BEOG only	5	3.3	10.19566	NS
2. BEOG, grant/scholarship	4	2.7		
3. BEOG, work	4	2.7		
4. BEOG, loan(s)	2	1.3		
5. BEOG, loan(s), work	0	0		
BEOG, grant/scholarship, and loan	12	8.0		
BEOG, grant/scholarship, and work	4	2.7		
8. BEOG, grant/scholarship, loan and work	2	1.3		

Discussion

When the mean year grade point averages of Basic Educational Opportunity Grant recipients and non-financial aid recipients were compared, a significant difference was found in the third year. In the comparison of Basic Grant recipients and non-financial aid recipients no other significant differences were noted except for the fall return rate of the sixth year, 1980. With the number of tests conducted it is possible to find one or more significant differences by chance. This is probably the case with the comparison of the third year mean grade point averages. However, the differences in the sixth year fall return rate merit further investigation.

Suspension rates after the first year and withdrawal rates in the fourth year do not seem to be of great use in studying persistence at Oregon State University. Daniel (1978) indicates that various statisticians disagree as to what level is proper for applying the chisquare test when small frequencies are expected. He states, "Some writers have recommended minimum values as high as 10..." (p. 167). Daniel notes that W. G. Cochran feels the use of ordinary chisquare tables are usually adequate if at least two is the expected frequency. Perhaps a method to increase the expected frequency would be to expand the suspension category to include students who are placed on deferred-suspension and probation. Students at Oregon State University who fall below a 2.0 grade point average and are not

suspended are placed either on probation or deferred suspension and then allowed to continue their studies at Oregon State University.

Significant differences were found in the second year return rates for Basic Grant students receiving different types of financial aid packages. The return rates ranged from 100% for the five students who had loans with the Basic Grant to 25% for the eight students who had work and loans. Significant differences were also found in the fourth year graduation rates for these Basic Grant recipients. The graduation rates ranged from 60% for the five students who were awarded loans in addition to the Basic Grant to 0% for the eight students receiving the combination of Basic Grant, loan, and work. Only limited conclusions may be drawn from these data because of the small number of recipients in some of the cells.

Summary

Significant differences were found in comparing the third year mean grade point averages of Basic Educational Opportunity Grant recipients and non-financial aid recipients. Significant differences were also found in the sixth year return rates.

When Basic Grant recipients with different types of financial aid packages were compared, significant differences were found in second year return rates and fourth year graduation rates.

V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

This study investigated whether the Basic Educational Opportunity Grant program at Oregon State University has provided access to higher education for students with lower financial resources. The study compared the persistence, achievement, and graduation rates of Basic Grant recipients with students receiving no student financial aid for the years 1975-1980.

The study contained two major segments. The first segment compared recipients with non-financial aid students. The two groups were compared in respect to:

- 1. Academic year mean GPA
- 2. Academic year mean completed credit hours
- 3. Withdrawal rates
- 4. Suspension rates
- 5. Return rates for the next fall term
- 6. Graduation rates

The second part of the study investigated Basic Grant award level in relation to the six indicators of persistence or non-persistence listed above. These six factors were also studied in relation to the type(s) of financial aid awarded in addition to the Basic Grant.

Conclusions regarding the effects of the student financial aid

could be drawn by controlling for the variables of sex, age, high school academic achievement and aptitude. A student's potential for success at Oregon State University was predicted by the use of multiple regression formulae to predict freshman year grade point averages.

Analysis of variance and chi-square analysis were used to test for differences. The . 05 level of confidence was accepted as being significant.

Conclusions

Based on the results of this study the following conclusions were drawn:

- There was no significant difference between the number of credit hours earned by Basic Educational Opportunity Grant recipients and non-financial aid recipients.
- 2. Basic Educational Opportunity Grant recipients and nonfinancial aid recipients did not have significantly different grade point averages.
- 3. There were no significant differences between Basic Educational Opportunity Grant recipients and non-financial aid recipients with respect to withdrawal and suspension rates.
- 4. There was no significant difference in the combined fourth

- and fifth year graduation rate between Basic Educational
 Opportunity Grant recipients and non-financial aid recipients.
- 5. There were no significant differences in the return rates in the second through fifth years of study between Basic Educational Opportunity Grant recipients and non-financial aid recipients. The return rate for the sixth year, fall term, 1980, was significantly higher for Basic Educational Opportunity Grant recipients.
- 6. There were no significant differences in the persistence of
 Basic Educational Opportunity Grant recipients when the
 various Basic Grant awards were compared.
- 7. Significant differences were found in the second year return rate and the fourth year graduation rate for Basic Educational Opportunity Grant recipients when the different types of financial aid award packages were compared.

Recommendations for Further Research

The results of this study suggest the following recommendations for further research:

This study should be replicated at other colleges and universities to see if the findings of this study are unique to
 Oregon State University or whether there is a broader basis

for generalizations of the findings. Replications of the study are particularly important at community colleges and at smaller colleges both public and private. Only limited research on this topic has been conducted in these institutions.

- 2. Follow-up studies of students who do not persist toward a baccalaureate degree should be conducted. It would be of interest to determine whether these students continued their educations at other schools or sought employment.
- 3. Further study of the possible influences of the student's financial aid package should be conducted. The use of stratified sampling techniques to insure equal numbers of Basic Grant recipients in each category of financial aid packages should be considered in the design of the study.
- 4. The possible reason(s) why non-recipients who have not received a baccalaureate degree and do not return for the sixth year of study should be investigated.
- 5. Studies should investigate the persistence of certain subgroups of the college population receiving Basic Grants.

 These sub-groups include transfer students, older students, non-resident students, students not meeting regular admission standards and/or students recruited by the Educational Opportunities Program.

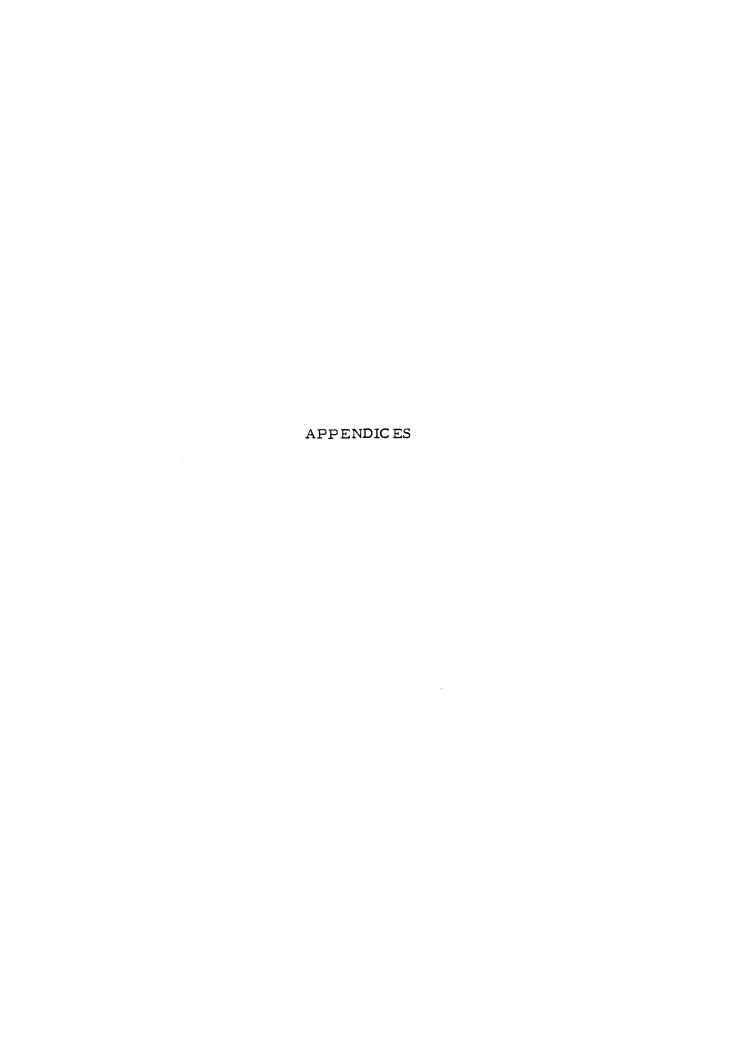
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APPENDIX A

BASIC EDUCATIONAL OPPORTUNITY GRANTS
DISBURSED AT OREGON STATE UNIVERSITY

	N	Range ²	Total Disbursed	m
1973-74	183	\$ 59-452	\$ 42,695	\$233
1974-75 ¹	506	112-1038	302,309	597
1975-76 ¹	1049	226-1088	808, 315	771
1976-77	1991	226-1112	1,558,629	783
1977-78	1993	226-1138	1,572,043	788
1978-79	2111	176-1138	1,754,956	831
1979 - 80 ³	3491	226-1162	3,080,347	882

- 1. Three-year phase-in of program limited students eligible to those who had not been graduated from high school prior to April 1, 1973, or, during the initial year 1973-74, those who had not been graduated prior to July 1, 1973. (Basic Grant Handbook, 1-1)
- 2. The range indicates the upper limit for OSU students paying resident tuition. Those paying non-resident fees would have a possible maximum award of \$1050 (1974-75), \$1400 (1975-78), \$1600 (1978-79), \$1800 (1979-80).
- 3. The year 1979-80 is the first year of the Middle Income Student
 Assistance Act (MISA) which greatly expands the number of
 eligible students.

APPENDIX B

COMPARISON OF OREGON STATE UNIVERSITY FINANCIAL AID BASE BUDGETS, RESIDENT UNDERGRADUATE TUITION, AND CONSUMER PRICE INDEX

Academic Year	9 Month Base Budget ¹	(Undergraduate) Resident Tuition	Consumer Price Index (CPI) ²
1975-76	\$2900	\$639	161.2
1976-77	3100	711	170.5
1977-78	3450	738	181.5
1978-79	3600	786	195.4
1979-80	3850	846	216.6
1980-81	4350	924	NA

- 1. <u>Base Budget</u> includes costs of undergraduate resident tuition, fees, books, room, board, clothing, medical, insurance, personal items and miscellaneous.
- 2. Consumer Price Index (CPI) for each year indicates U.S.
 Bureau of Labor Statistics measure of average price change for all types of consumer goods and services. 1967-100. The CPI for 1975-76 is the index for 1975, 1976-77 is the CPI for 1976, etc.