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The purpose of this study was to determine whether the student financial aid programs administered through the Financial Aid Office at Oregon State University have achieved their objectives of accomplishing the goals of financial aid in higher education for Oregon community college (OCC) transfer students who receive financial aid. This study focused on the academic persistence of OCC transfer financial aid recipients by comparing their mean academic year grade point average, mean academic year credit hours earned, withdrawal rates, academic probation rates, academic suspension rates, fall term return rates, and graduation rates with OCC transfer students who did not apply for or receive student financial aid.

In the comparison between financial aid recipients and non-financial aid recipients, pair-matching was used to control for the variables of sex, transfer grade point average, classification (grade level at transfer), and age.

A second part of the study examined any differences in the financial aid in the packages awarded in the first year with respect to the seven measures of persistence noted above.

It was concluded that financial aid recipients were as successful in persisting to graduation as students who did not receive financial aid. It was also concluded that no one type of aid or combination of financial aids was significantly more effective than another in student persistence to graduation.

A Longitudinal Study of Oregon Community College  
Transfer Financial Aid Recipients at Oregon  
State University, 1975-1981

by

Michael Raymond Cihak

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A Longitudinal Study of Oregon Community College  
Transfer Financial Aid Recipients at Oregon  
State University, 1975-1981

Chapter 1

THE PROBLEM

Introduction

Student financial aid has expanded greatly in the United States since 1643 when 100 English pounds were given to Harvard College to assist needy scholars. Scholarships, loans and student employment illustrated the good intentions of various institutions toward helping students who lacked the funds necessary to attain a college education. The Morrill Act of 1862 provided the means for low cost education to a number of students through the establishment of land grant colleges (National Association of Student Financial Aid Administrators, 1979).

According to McCormick (1972), there were three major events which motivated the federal government to move into the area of student financial aid. These included: The Depression of the 1930's, the Second World War, and the success of the Soviet Union in the field of aerospace during the 1950's.

The Depression of the 1930's brought into existence the first college work-study program under the direction of the National Youth Administration. The colleges provided the work and the students were paid directly from the federal government.

The Service Man's Readjustment Act of 1944 (G.I. Bill) was

landmark legislation which provided education and training for millions of returning service personnel. In addition, President Harry Truman felt that young Americans should have the opportunity to continue their educational pursuits to the extent that their ability and motivation could carry them. His administration marked the beginning of a national policy providing students with both access to and reasonable choice among a wide diversity of post-secondary educational institutions (McCormick, 1980).

During the early 1950's Congress debated the subject of federal financial assistance for college students. It was not until the launching of a space satellite in 1957 by the Soviet Union, however, that the federal government became committed to the problem associated with a student's ability to finance post-secondary education. The Russian space success shocked the American people, and Congress responded to the challenge with the National Defense Act of 1958 (PL 85-854).

The federal investment since the passage of the National Defense Education Act of 1958 has totaled nearly \$30 billion in direct aid to students whose resources have been inadequate to meet college costs. States, private donors, and institutions have provided additional aid to students. However, relatively little research has been carried out to study the effect of this massive amount of aid on students and their ability to participate successfully in the educational process (Van Dusen, 1980). Jensen (1983) notes that research is very limited, especially with regard to the effect of federal financial aid on graduation from college.

An individual's participation in post-secondary education has been considered one of the major ways of achieving equality of economic opportunity and social mobility in the United States for non-traditional populations. Federal student financial aid programs have attempted to provide the means to equalize the ability of students to afford a post-secondary education and thereby have access to the benefits of higher education (Corrallo and Davis, 1977).

Two of the goals of federal student financial aid program, according to Astin (1975), are to enhance equality of educational opportunity which includes access to post-secondary education and the ability to persist toward completion of a college education. There is little information, however, regarding transfer students who receive federal financial assistance, and whether federal student financial aid programs do, in fact, help make the benefits of higher education available to eligible transfer students, particularly community college transfer students. In addition, little is known about the effect of types of aid received on academic achievement and persistence to graduation on the part of community college transfers.

The dramatic growth in community colleges as well as the increase in the number of community college students over the past 20 years has made a significant impact on four-year institutions (Peng and Duntzman, 1977). Relatively little research has been done on this group and, as a result, little is known about their needs and problems (Sandeen and Goodale, 1971; Fahrer, 1975).

Knoell and Medsker (1965) noted that the economic barriers

to higher education are particularly formidable for many community college transfer students. These students choose local community transfer programs because of proximity, low cost and availability of work. A study of 29 two-year colleges by the American College Testing Program found that many of these students attended two-year colleges because of their lack of funds to attend four-year institutions and their need to work while attending the relatively inexpensive two-year college (American College Testing Program, 1969).

Willingham (1972) stated that many community college students were ill-informed and unprepared for the financial constraints of attending a four-year institution and, after finding out that they cannot meet their financial obligations, drop out of the institution.

Holmstrom and Bisconti (1974) noted in their study of first time, full-time community college students, that community college populations contain larger proportions of students from low socio-economic backgrounds, of older students, and of students with poor high school records than the population of students who enter four-year institutions as freshmen.

Among the differences noted in the research, community college transfer students generally come from families of lower socio-economic status when compared to native four-year students, and appear to demonstrate greater average need for financial help (Richman, 1979; Bailey and Collins, 1977).

Relying on information from the Student Resources Survey study, Van Dusen (1974) stated that community college transfer

students seem to exhibit greater average need for financial assistance when compared to freshmen students who enter four-year institutions. He pointed out, however, that in many instances community college students were not considered on an equal basis for financial assistance consideration with the entering freshman student.

Fahrer (1975), noting the lack of information relative to community college transfer students, cited the need to find out more regarding these students as financial aid recipients. Sandeen and Goodale (1976) stated that while efforts have been made to gain additional knowledge concerning transfer students, most institutions have not studied their own transfer students and their financial needs.

Astin (1975) discussed the need for institutions to research the effects of different types or combinations of financial aid on the persistence of students in college.

Studies conducted by Peng and Fetters (1978) and Holmstrom and Bisconti (1974) have indicated that many community college transfer students are less well off financially than are freshman entering four-year colleges, and with the rising cost of living and educational expenses, the subject of financial resources for community college transfer students is critical. In addition, Jensen (1983) has noted that the need for evaluation of the effects of financial aid program on students is urgent because of the recent reductions in federal student aid funds by the present federal administration. Since an egalitarian approach to higher education has been the purpose of the Office of Education Student Financial Aid Programs,

a study of the impact of financial assistance to community college transfer students seems appropriate.

Adequate financing remains an extremely important factor in whether or not students continue their careers in higher education. Frequently, community college transfer students depend directly upon availability of federal financial aid for the continuance of college careers (Knoell and Medsker, 1965). Yet relatively few researchers have studied the actual impact of various types of aid upon student recipients and even fewer have examined the impact of various financial aid packages on recipients (Hood and Maplethorpe, 1980).

In providing students with financial aid, the various federal student assistance programs have three basic goals: access, choice, and persistence. Student aid should assist the recipients with access to a post-secondary education that will be appropriate to their abilities and talents. It is equally essential that students be assisted with the necessary funding to continue and complete an educational program. Access and choice can be ineffective if students lack the financial means necessary to persist toward the completion of an educational program. Herndon (1982) has noted that the enormous amount of federal aid to students warrants more than access to and choice of institutions. Student financial aid recipients should be able to persist beyond entry into college to receive the benefits of higher education by taking advantage of what higher education has to offer including the completion of degree objectives.

It is also within the scope of the goals of federal student financial aid that this aid be delivered to the student in such a way that it will enable the student to pursue an educational program and not hinder the academic progress of the individual (National Association of Financial Aid Administrators, 1979). The effect of the type of financial aid received on community college transfer students needs to be considered.

#### Purpose of the Study

The purpose of this study was to determine whether the student financial aid program administered through the Financial Aid Office at Oregon State University have achieved their objectives of accomplishing the goals of financial aid in higher education for Oregon community college (OCC) transfer students who receive financial aid. These goals include initial access, reasonable choice of institutions, and persistence to the baccalaureate degree. This study focuses on the success/persistence or non-success/non-persistence of OCC transfer financial aid recipients. The study compares the academic achievement, persistence, and graduation rates of OCC transfer financial aid recipients with OCC transfer students who did not apply for or receive student financial aid through the Oregon State University Financial Aid Office.

The study will have two major parts; the first part will compare OCC transfer students who received aid with OCC transfer students who did not receive aid in the areas of: (1) academic

year mean grade point average (GPA), (2) academic year mean credit hours earned, (3) withdrawal rates, (4) academic probation rates, (5) academic suspension rates, (6) return rates for the fall term, and (7) graduation rates.

The second part will examine any differences in the financial aid packages awarded in the first year after transfer to OCC transfer students with respect to the seven measures of success-persistence and non-success/non-persistence noted above. There are seven possible aid packages that might be awarded: (1) gift aid only, (2) loan only, (3) work only, (4) loan(s) and work, (5) gift aid(s) and work, (6) gift aid(s) and loan(s), and (7) gift aid(s), and loan(s) and work.

#### Statement of the Problem

This study focuses on a group of public community college transfer students to determine the effect of financial aid programs, administered through the Oregon State University Financial Aid Office, on academic achievement and persistence to graduation. This study will seek to determine whether OCC transfer student financial aid recipients persist and achieve as well academically as those OCC transfer students who do not apply for financial aid at Oregon State University. In addition, this study will seek to determine if there are differences between the types of aid awarded during the first year after transfer to the financial aid recipient and persistence/academic achievement, e.g., are there differences between students receiving only gift aid and those receiving gift and loan.

### Importance of the Study

Currently, there are no longitudinal studies relative to community college students who receive the major federal student financial aid programs authorized under Title IV of the Higher Education Act of 1965 and its amendments. There is a need to know more about community college transfer students with regard to their persistence/academic achievement and the possible relationship of the kind of financial aid package awarded.

### Research Hypotheses

To facilitate statistical analysis of the data, 14 null hypotheses were developed:

1. There is no significant difference in the mean academic year grade point average (GPA) between Oregon community college (OCC) transfer financial aid recipients and OCC transfer non-financial aid recipients at the end of: (a) the first year after transfer, (b) the second year after transfer, (c) the third year after transfer, (d) the fourth year after transfer, (e) the fifth year after transfer, (f) the sixth year after transfer.
2. There is no significant difference in the mean academic year credit hours earned between OCC transfer financial aid recipients and OCC transfer non-financial aid recipients at the end of: (a) the first year after transfer, (b) the second year after transfer, (c) the third year after transfer, (d) the fourth year after transfer, (e) the fifth year after transfer, (f) the sixth year after transfer.

3. There is no significant difference in the withdrawal rates between OCC transfer financial aid recipients and OCC transfer non-financial aid recipients by the end of: (a) the first year after transfer, (b) the second year after transfer, (c) the third year after transfer, (d) the fourth year after transfer, (e) the fifth year after transfer, (f) the sixth year after transfer.
4. There is no significant difference in the academic probation rates between OCC transfer financial aid recipients and OCC transfer non-financial aid recipients by the end of: (a) the first year after transfer, (b) the second year after transfer, (c) the third year after transfer, (d) the fourth year after transfer, (e) the fifth year after transfer, (f) the sixth year after transfer.
5. There is no significant difference in the academic suspension rates between OCC transfer financial aid recipients and OCC transfer non-financial aid recipients by the end of: (a) the first year after transfer, (b) the second year after transfer, (c) the third year after transfer, (d) the fourth year after transfer, (e) the fifth year after transfer, (f) the sixth year after transfer.
6. There is no significant difference in return rates for fall term between OCC transfer financial aid recipients and OCC transfer non-financial aid recipients at the beginning of: (a) the second year after transfer, (b) the third year after transfer, (c) the fourth year after transfer, (d) the fifth

- year after transfer, (e) the sixth year after transfer.
7. There is no significant difference in graduation rates between OCC transfer financial aid recipients and OCC transfer non-financial aid recipients by the end of: (a) the second year after transfer, (b) the third year after transfer, (c) the fourth year after transfer, (d) the fifth year after transfer, (e) the sixth year after transfer.
8. There is no significant difference between the type(s) of financial aid awarded and the mean grade point average (GPA) for OCC transfer financial aid recipients at the end of: (a) the first year after transfer, (b) the second year after transfer. (c) the third year after transfer, (d) the fourth year after transfer, (e) the fifth year after transfer, (f) the sixth year after transfer.
9. There is no significant difference between the type(s) of financial aid awarded and the mean academic year credit hours earned for OCC transfer financial aid recipients at the end of: (a) the first year after transfer, (b) the second year after transfer, (c) the third year after transfer, (d) the fourth year after transfer, (e) the fifth year after transfer, (f) the sixth year after transfer.
10. There is no significant difference between the type(s) of financial aid awarded and the withdrawal rates of OCC transfer financial aid recipients by the end of: (a) the first year after transfer, (b) the second year after transfer, (c) the third year after transfer, (d) the fourth year after transfer,

- (e) the fifth year after transfer, (f) the sixth year after transfer.
11. There is no significant differences between the type(s) of financial aid awarded and the academic probation rates of OCC transfer financial aid recipients by the end of: (a) the first year after transfer, (b) the second year after transfer, (c) the third year after transfer, (d) the fourth year after transfer, (e) the fifth year after transfer, (f) the sixth year after transfer.
12. There is no significant differences between the type(s) of financial aid awarded and the academic suspension rates of OCC transfer financial aid recipients by the end of: (a) the first year after transfer, (b) the second year after transfer, (c) the third year after transfer, (d) the fourth year after transfer, (e) the fifth year after transfer, (f) the sixth year after transfer.
13. There is no significant difference between the type(s) of aid awarded and the return rates for fall term for OCC transfer financial aid recipients at the beginning of: (a) the second year after transfer, (b) the third year after transfer, (c) the fourth year after transfer, (d) the fifth year after transfer, (e) the sixth year after transfer.
14. There is no significant difference between the type(s) of financial aid awarded and the graduation rates for OCC transfer financial aid recipients by the end of: (a) the second year after transfer, (b) the third year after transfer, (c)

the fourth year after transfer, (d) the fifth year after transfer, (e) the sixth year after transfer.

#### Limitations of Study

This study was confined to undergraduate students who transferred to Oregon State University in the fall of 1975 from one of the 13 Oregon community colleges.

The data available on the subjects, both financial aid recipients and non-financial aid recipients, did not include specific information on the socio-economic status of the student and his/her family. Demographic information except that specifically cited was not considered in the study.

The study did not consider the motivational and personality factors that may be present which would prevent a student who has financial need from applying for financial aid.

The study considered the progress of students only while they were enrolled at Oregon State University during the six years covered by the study.

#### Definition of Terms

Community College: A two-year college, publicly funded and locally governed, offering a variety of courses in general education, occupational-vocational-technical education, and lower division collegiate education.

Oregon Community College: One of 13 community colleges located throughout the state of Oregon.

Oregon Community College Transfer Student: A freshman, sophomore or junior undergraduate student who transferred to Oregon State University fall term 1975 with at least one full term of credit from a community college, and with a cumulative transfer grade point average of 2.0 or higher.

Oregon Community College (OCC) Transfer Financial Aid Recipient: An undergraduate student in this study who received student financial aid beginning in the 1975-76 academic year through the Oregon State University Financial Aid Office. Students who received aid in subsequent years, but not during the first year of the study, were omitted from the study.

Oregon Community College (OCC) Transfer Non-financial Aid Recipient: An undergraduate student who did not apply for or receive any student financial aid through the Oregon State University Financial Aid Office during the study. This student was part of the control group for this study.

Oregon State University: One of three state universities in Oregon offering fields of study in liberal arts and sciences, technology, scientific, and professional programs.

Student Financial Aid: Funds administered through the Oregon State University Financial Aid Office. There are three principal forms of direct aid to students provided by the need-based federal student financial aid program authorized under Title IV of the Higher Education Act of 1965 and its amendments: Gift Aid (including Basic Educational Opportunity Grant (now called the Pell Grant)),

Supplemental Education Opportunity Grant, Oregon State Need Grant, Oregon State Cash Award) that requires no repayment; Loans (including National Direct Student Loan and Guaranteed Student Loan) which require repayment usually following graduation or the student leaving school; and Work awarded through the College Work-Study Program. In addition, scholarships (gift aid), the OSU Regular institutional loan and the Apperson state loan administered through the Oregon State University Financial Aid Office were included as student financial aid in this study.

Financial Aid Package: Some combination of one or more of the three student financial aid programs administered through the Oregon State University Financial Aid Office (gift aid, loan, and/or work).

Academic Year: At Oregon State University, three terms--fall, winter, spring.

Grade Point Average (GPA): The total number of grade points received for A, B, C, D, or F grades divided by total number of term hours taken. For each term or credit hour completed with an A, 4 grade points are awarded; for B, 3 points; for C, 2 points; for D, 1 point; for F, no points. Marks of I, E, and W are not computed in the grade point average.

Credit (Term) Hour: One unit of credit representing approximately three hours of the student's time each week for one term; includes hours earned with grades of A, B, C, D, S, P.

Withdrawal: A student is considered to have withdrawn if he/she

completes enrollment for any part of an academic year and does not complete the balance of the year for reasons other than suspension.

Academic Suspension: A student is not allowed to continue enrollment at Oregon State University while maintaining consistently unsatisfactory academic work.

Academic Probation: Any student achieving a grade point average below 2.00, either term or cumulative, is placed or continued on probation (unless subject to suspension).

Return Rate (Fall): The enrollment of a student during the fall term of an academic year at Oregon State University.

Persistence: The continuation of a student toward the completion of a baccalaureate degree at Oregon State University.

Graduation: The receipt of a baccalaureate degree at Oregon State University in 1977, 1978, 1979, 1980, 1981.

## Chapter 2

### REVIEW OF RELATED LITERATURE

A review of literature related to student financial aid reveals little information in the area of community college transfer student persistence studies. While there has been an increase in the volume of financial aid publications in recent years, there seem to be few longitudinal studies dealing with community college transfer students who have received financial aid.

Major federal involvement and investment in student financial aid programs to assist students who lacked the financial means to attend and complete post-secondary education began with the National Defense Act of 1958 (PL 85-854). The Title IV provisions of this act had a significant impact on college students especially through the National Defense Student Loan Program which provided qualified students with long-term, low-interest loans to assist them in the pursuit and completion of a full-time course of study (McCormick, 1972). In 1964, the College Work-Study Program was authorized under the Economic Opportunity Act. The Higher Education Act of 1965 (PL 89-329) provided Educational Opportunity Grants as well as the Guaranteed Student Loan Program. In addition, the concept of combining the three basic programs of federal student aid: grants, loans, and college work-study, into financial aid "packages" was authorized under this act. The Amendments of 1972 (PL 92-318) brought about the Basic Educational Opportunity

Grant which students could use at any eligible institution (National Association of Student Financial Aid Administrators, 1979).

Congressional interest in the effectiveness of its multi-billion-dollar student aid programs brought about the National Commission on Student Financial Assistance in the Educational Amendments of 1980 (PL 96-374). This commission was established to make a number of studies including an analysis of ". . . the impact of various levels of student borrowing, grants, gift aid, and employment on the educational performance, further career choices, and future educational choices of students . . ." (Sec. 491, PL 96-374, 3D).

Van Dusen (1980) pointed out the lack of well-conducted research and how little is known about the effect of student financial aid on those it is intended to help. He indicated that there has been very little effort to determine who receives aid, who should receive aid, how the aid should be delivered, and the long-range implications of student aid. He cited the fact that there has been approximately one research article completed for every \$150 million in student aid made available by the federal government.

Literature related to this study may be grouped into the following general categories: (1) the role of financial aid in college student attrition and retention; (2) academic achievement and persistence of community college transfer students in four-year institutions; and (3) academic achievement and persistence of community college transfer students who received financial aid.

### The Role of Financial Aid in College Student Attrition and Retention

In an extensive review of studies relating to college attrition from 1950 to 1975, Pantages and Creedon (1978) noted that college student attrition involves "an extremely intricate interplay among the multitude of variables" (p. 94). These variables include: demographic and academic factors, motivational and personality factors, college environment, and financial factors. In their discussion of the importance of financial factors in relation to student attrition, the authors noted several studies which indicated that financial difficulties ranked among the first three reasons given by students for leaving college.

In summary, Pantages and Creedon stated that the research did not appear to support financial reasons as the primary reason that students do not persist. The authors concluded that a student's withdrawal for financial reasons would be temporary and re-enrollment would eventually take place. The authors cited the research of Astin (1973) and Blanchfield (1971) to determine that the only aid that was found to increase a student's chances for persistence were scholarships and grants.

According to Henry (1980) there are numerous factors that affect a student's decision to stop attendance or to continue enrollment at a college. The author stated that some studies indicated that financial aid awards have a significant role in that decision.

Astin (1975) attested to the fact that it was difficult to assess the effects of a single variable because variables do not

occur in isolation. In his monumental study of student attrition, he used the results from 41,356 freshmen respondents representing two- and four-year institutions. Astin found that the type and amount of financial aid from several diverse sources could be an important factor in a student's ability to persist in college. His general conclusions regarding the expected impact of financial aid on student persistence were influenced by the aid recipients' sex, ethnic, and socio-economic background. These included:

1. Parental support enhanced persistence in most cases.
2. A spouse working for a major part of family finances increased persistence.
3. Grants and scholarships were associated with small increases in student persistence.
4. Reliance on loans usually meant a decrease in persistence.
5. Involvement in the College Work-Study Program enhanced persistence.
6. Total reliance on the veteran's benefits had a negative effect on persistence.
7. Participation in ROTC was positively associated with persistence.
8. Any one form of aid (grant, scholarship, loan, college work study) was effective if it was not combined with other aid and was less effective if combined with other aid.

Astin suggested that an institution needed to investigate the type of financial aid package awarded to students in order to determine if the type of aid received affected a student's persistence in college.

Peng and Fetters (1978) obtained different results when they studied the relationship of student aid to persistence using a two-year follow-up of the National Longitudinal Study of the High School Class of 1972. Serving as the population for this research were 4,539 students from four-year institutions and 1,378 students from two-year institutions who were in academic programs leading to the baccalaureate degree. The types of financial aid considered in the study included a wide variety of aids available to students. The authors concluded that the receipt of financial aid was not significantly related to persistence in college. The authors further concluded that the effect of socio-economic status on persistence in college was probably the result of parental expectations and pressure rather than financial conditions.

Kinsey (1972) sought to investigate the needs of black college students with socio-economic disadvantages of Michigan State University. The study documented the views of 259 freshmen and sophomore students relative to financial aid. The results of the study were:

1. These students felt that financial aid is most essential to their educational survival.
2. These students list parents, relatives, and savings along with financial aid as significant sources of educational funding.
3. Loans are the least desired type of assistance, although over half of the students had them as part of the financial aid award.
4. These students could concentrate their energies on academic

and personal problems since their financial problems had been reduced.

5. Most of these students found it necessary to work although they had received financial aid; however, those who did work did not feel that this hampered their academic endeavors.

Selby (1973) studied the relationship that might exist among race (black/white), amount of aid awarded, and persistence in college. The author used a matched group of single students from "low income areas" in Kansas City and St. Louis, Missouri. The variables of sex, aptitude (School and College Ability Test), and high school rank were controlled in the matching process.

Selby's study sought to determine if significant relationships existed among race, persistence (completion of freshman year and enrollment for sophomore year, or completion of one term and transfer to another college), and the amount of financial aid received during the freshman year. The data suggested that no relationship existed between persistence and the amount of financial aid received for any racial sub-group or the total group of students. A limitation of this study was the small number of subjects in each group (30) and that persistence was only measured for one year. While no significant relationship was determined, the author noted that 75 percent of the students who had received financial aid persisted, while 61 percent of those not receiving aid persisted.

Zielke (1978) found in studying 204 freshmen at the University of Wyoming that the Basic Educational Opportunity Grant program

provided students from low resource families equal access to the benefits of higher education. The students who participated in the grant program were able to persist, achieve, and graduate as well as non-recipient students who came from more affluent families over a four-year period.

Jensen (1981), using socio-economic and academic background data obtained on 655 freshmen students at Washington State University, sought to determine the impact of financial assistance on persistence (number of semesters enrolled) in college over a four-year period. Students who had applied for and received aid through the Financial Aid Office formed the recipient group. Those freshmen who had applied for financial aid, but who were found to be ineligible for aid, comprised the non-recipient group. Those students who did not apply for aid formed the control group.

The results of the study showed that at the end of the first year non-recipients had the highest mean grade point average and the control group had the lowest mean grade point average. In socio-economic status, the control group had the highest status, while the recipient group had the lowest status. The author felt that this fact was attributable to the need-based selection criteria for student financial aid assistance. Jensen found that receipt of student financial aid administered through the Financial Aid Office appeared to have a small positive effect on persistence. In addition, he stated that the denial of student aid to those who had applied for aid from higher socio-economic backgrounds appeared to have a small negative impact on the number of semesters attended

by that group. Increasing the amounts of aid per semester tended to have a negative effect on the persistence of financial aid recipients. The author felt this was a result of an increase in debt from loans acquired each subsequent year of enrollment by these students.

McCreight and Le May (1982), in a study of 300 freshman students at Oregon State University, sought to determine the effect of financial aid, notably the Basic Grant program, on the persistence of these students while controlling for the variables of residency, age, sex, high school graduation, academic aptitude, and achievement. The author found that Basic Educational Opportunity Grant recipients who had lower financial resources persisted as well as students who had not received any student financial aid and had not applied for aid over a five-year period. Slightly more Basic Educational Opportunity Grant recipients graduated during the fourth and fifth years of the study. In addition, the study found that there was no significant difference between persistence and the amount of Basic Grant awarded. The author concluded that since the financial aid recipients had the major portion of their financial need met, the actual dollar amount of aid awarded did not affect any of the variables considered in the study. The important aspect of amount of aid was whether the student's financial need was provided.

Krieger (1980) noted in his study of freshmen that there was no significant difference between those who received financial aid and non-financial aid recipients in their persistence to graduation. The type of financial aid awarded to a student did not explain a significant proportion of the variance in student

retention. He concluded that financial aid permitted a student to persist in college.

Brooks (1981) found in a sample of undergraduates at Indiana University that the retention rate of the population was not significantly related to participation in the National Direct Student Loan Program and the College Work Study Program. However, students who received a financial aid award of College Work-Study performed significantly better academically than students who received an award of National Direct Student Loan.

Peng, Bailey, and Ekland (1977), in their research on the National Longitudinal Study of the High School Class of 1972, concluded that although financial aid seemed to have relatively little impact on college attendance, it obviously helped college students. In some cases, financial aid was the difference between students attending or not attending college.

In their review of the literature relative to the impact of financial aid on retention of college students, Davis and Van Dusen (1978) found that the research did not conclusively indicate that financial aid consistently affected student retention. The authors indicated that financial aid assisted student retention in some instances for some students.

Wenc (1977) noted that college student persistence was more influenced by personal commitment, family motivation, and college environment than financial problems. This author felt that financial problems tended to be more significant at the beginning of college. The question of whether this concept is true for community

college transfer students as a group has not been determined in the literature.

#### Academic Achievement and Persistence of Community College Transfer Students

Much has been written about community college transfer students and their academic achievement, particularly in the area of what has become known as "transfer shock." This term denotes a drop in grade point average by community college transfer students during their first term of attendance at a four-year institution. Hill (1965) coined the term from his review of studies involving community college transfers and the transfer process to senior institutions. He also determined that these students improved their grade point average in the terms following the initial decline. A number of other researchers found similar results in their reviews of other studies (Webb, 1971; Sutton, 1969; Knoell and Medsker, 1964).

Sitzman (1972), at the University of Florida, found that the community college grade point average was the most powerful predictor of success at that institution for community college transfer students. This factor was also noted by Phlegar (1978), who concluded that the most recent academic information was the best predictor of academic success.

Disparities between community college transfer students and native students were substantiated by the research of Peng and Dunteman (1977), who found that native students were very different from community college transfer students, particularly in their

ability, academic achievement, aspiration and socio-economic status.

In studies related to Oregon community college transfer students at Oregon State University, LeMay and Edelbrock (1973) found that a drop in first-term grade point average after transfer was a reality and that Oregon community college transfer students should be prepared for it. These authors did note, however, that Oregon community college transfer students were persistent and successful at Oregon State University. This finding was supported by Marimorino and Phillips (1976) in a report which indicated that Oregon community college transfer students who graduated had a grade point average of 2.93 compared to 2.91 grade point average for all other Oregon State University graduating seniors.

Nolan and Hall (1978), in studying community college transfer students at Southern West Virginia Community College, attempted to determine whether transfer shock continued to be a problem for the community college student. Their findings illustrated that these students continue to show a decline in their first term of attendance following transfer and an improvement in grade point average in the following terms. The authors concluded that community college transfer students show consistent academic performance after they become adjusted to the new environment of the four-year institution.

Newlon and Gaither (1980) studied two groups of students--native freshmen and junior transfers from their initial enrollment over a period of six years. The results of this study revealed that most student attrition occurred during the initial year of enrollment

for both men and women. Declaration of a major and school of enrollment had no significant effect on persistence of the transfer population. Transfer students demonstrated no difference between men and women in terms of persistence; however, the authors did find that junior transfers had a higher attrition rate than freshmen students who entered from high school. This finding supported the research of Kohen, Nestel, and Karmas (1978), which found that students who attended two-year colleges were more likely to drop out at every level of undergraduate life, even after the transfer process to four-year institutions.

DeWolf (1979) found in studying community college transfers at the University of Washington that: (1) almost two-thirds of the students were male, (2) during the first year of transfer community college transfer students earned slightly fewer hours than four-year transfer and native students, (3) the academic performance of community college students was not affected by the size of the community college attended, and (4) four-year transfer students experienced a smaller drop between their transfer grade point average and the first year grade point average after transfer than community college transfer students.

Marmorino and Phillips (1976), in a study of 469 Oregon community college transfer students who entered Oregon State University in the fall of 1972, found that 42.8 percent persisted to graduation in a three-year period. An additional 18.3 percent were still enrolled in the university the following fall term, 1975. The majority of the graduates transferred at the sophomore

level or above. These graduates achieved a cumulative mean grade point average of 2.93 at graduation.

Lunneborg and Lunneborg (1976) found that community college transfer students who graduated from four-year institutions differed when compared to native and four-year transfer students who graduated. More community college transfer graduates majored in the social sciences and fewer in the natural sciences. These students also viewed the university as more interested in graduate research oriented programs than in undergraduate students. They felt more isolated and had less interaction with the university. These community college transfer graduates cited family responsibilities and financial obstacles as reasons for not going on to graduate school and more planned on working immediately after graduation, which the authors felt supported the notion that community college transfer students have greater economic needs. More of these students indicated that they were going to work in jobs not related to their major fields of study.

Le May (1981) found in a six-year study (1975-81) at Oregon State University that the graduation rate for all transfer students who entered the university in the fall term 1975 totalled 56 percent. Both men and women had equal graduation rates of 56 percent. Those students who transferred from Oregon community colleges had an overall graduation rate of 55 percent. Students who transferred from other colleges and universities within the Oregon State System of Higher Education had an overall graduation rate of 59 percent. Transfer students who attended other

institutions had a graduation rate of 55 percent. The author found that transfer grade point average had an effect on persistence to graduation. The study indicated that transfer students who had higher transfer grade point averages were more likely to graduate than transfer students who had low transfer grade point averages.

In considering the significance of financial aid provided by the major federal Title IV programs and the academic performance of junior college transfers, Knox (1973) determined that there was no significant difference in the grade point average of aid recipients and those who had applied but did not receive aid.

The weaknesses in this study relative to junior college students was that it only considered the grade point average attained during the first year for the transfer students. The concept of transfer shock did not seem to be noted in the study. Knox compared the mean grade point average of aid recipients with the mean grade point average of non-recipients to draw his conclusions regarding the effect of financial aid. No information concerning the number of hours completed, academic suspension rates, return rates, or withdrawal rates was discussed.

Holmstrom and Bisconti (1974), in a national study of community college transfer students, found that their overall baccalaureate completion rate in a four-year period was 40 percent. Relative to major sources (defined as 50 percent or more) support indicated by these students, the authors noted that the largest percentage of students depended upon parents or relatives for resources. These students who relied heavily on family support had

a graduation rate of 42 percent. Forty-six percent of the students who relied on summer work graduated, while 38 percent of those who worked while attending school for their major support completed a degree in four years. For those students who used savings and assets as the major sources of support, only 34.1 percent graduated. Students with different types of scholarships had completion rates ranging from 35.2 to 57.2 percent. Those indicating major support from loans had graduation rates which ranged from 29.6 (commercial bank) to 44.1 percent (federal loan programs). Students awarded College Work-Study funds had a completion rate of 42.3 percent. Major reliance on G.I. Benefits resulted in a 25.8 percent completion, while R.O.T.C. had 87.5 percent completion. The authors concluded that receipt of financial aid was strongly related to the academic progress of college students.

The literature on community college transfer students suggests that they are different in a number of areas and experiences from students who attend four-year institutions as freshmen. The financial needs of community college transfer students, who are often either self-supporting or from lower-income families, are in many instances greater than those of entering freshman students.

There is a need to know more about community college transfer students and the effect of financial aid on their academic achievement and persistence.

#### Academic Achievement and Persistence of Community College Transfer Students Who Received Financial Aid

In his study of the relationship between financial aid and

the academic performance of junior college transfer students and native students, Knox (1973) concluded the following:

1. There was no significant difference in the ratio of applicants to recipients of financial aid for transfer and native students.
2. Financial aid was not a significant factor in the academic performance of transfer students.
3. There was a significant difference in the academic performance in both native and transfer financial aid recipient groups in relation to race, age, and classification.

The author found that the variable of race was the best single predictor of academic performance in both native and junior college transfer aid recipient groups. The study showed that junior college transfer students were not being discriminated against in relation to aid awarded when compared to native students. Seventy-one percent of the junior college transfer students received aid and 69 percent of the native students were awarded. This finding was in contrast to the suggestion of Van Dusen (1974) that community college transfer students were not receiving an appropriate share of financial aid awards.

The low percentage of students involved in scholarships, loans, and College Work-Study, and the higher percentage of students dependent upon parental contribution and work noted in the research conducted by Holmstrom and Bisconti supported the results of the American College Testing Report (1969). This latter study found that community college students were not involved to any

reasonable degree in federal student financial aid programs. Major support came from work, savings, and parental contribution.

In his research on two-year college transfers Peng (1977) noted that 2.94 percent received Basic Educational Opportunity Grants, 1.89 percent received Supplemental Educational Opportunity Grants, 4.98 percent received institutional grants or scholarships and 6.0 percent received state scholarships. A higher percentage of students was involved in federal loan programs with 12.0 percent receiving Guaranteed Student Loans, 9.89 percent receiving National Direct Student Loans and 0.56 percent receiving institutional loans.

More recent studies have indicated that community college transfer students have realized the availability of financial aid programs.

Selgas (1977) found that 31 percent of the community college graduates in his study had applied for aid while at the community college and 27.3 percent received aid. At the transfer institution, 41.5 percent of those who had transferred applied for aid and 33.8 percent received assistance.

Karlen (1980) found that 63 percent of the new students entering community college in her study were anticipating relying on financial aid to provide for their needed college expenses. Of these students, 21.8 percent anticipated transferring to a four-year institution.

#### Summary

The majority of research relative to the effect of financial

aid on persistence in college has been conducted with freshmen populations. The results of these studies have indicated in most instances that financial aid does have an effect on a student's ability to persist in college. Studies have shown that community college students who transfer to four-year institutions differ as a group from students who enter four-year institutions as freshmen. This difference between these groups limits the value of these prior studies relative to the effect of federal student financial aid programs on the persistence of community college transfer students in college. The one four-year study of community college transfer students noted that graduation rates were affected by the type of aid awarded, but made no determination as to whether the differences were significant, or whether students who received financial aid persisted toward graduation at a higher rate than students who did not receive financial aid. The one study which investigated the difference in persistence between community college transfer financial aid recipients and community college transfer non-financial aid recipients only considered the first year after transfer. This study found no significant difference between the groups.

The federal government provided \$2.44 billion in Title IV Student Assistance Programs in 1975 to aid students who demonstrated need to attend college and attain the completion of an educational program. This amount was increased to \$5.7 billion by 1981 (National Association of Student Financial Aid Administrators, 1981). Since there is little longitudinal information relative to the impact of student financial aid Title IV programs

administered through the financial aid office on the persistence of community college transfer students, research in this area seems to be warranted.

## Chapter 3

### RESEARCH AND METHODOLOGY

#### Introduction

The intent of this study was to determine whether the student financial aid programs administered through the Financial Aid Office at Oregon State University have achieved their objectives of accomplishing the goals of financial aid in higher education for Oregon community college (OCC) transfer students who have received financial aid.

In this chapter, the selection of subjects, description of the student groups, the sources of data, the treatment of the data, and the types of statistical analyses employed in testing the hypotheses are described.

The basic design of this investigation encompassed two parts. In the first segment, two groups of OCC transfer students attending Oregon State University, financial aid recipients and non-financial aid recipients, were compared to determine if there were any differences between the groups relative to the following indicators:

1. academic year mean grade point average (GPA)
2. academic year mean completed credit hours
3. withdrawal rates
4. academic probation rates

5. academic suspension rates
6. return rates for the next fall term
7. graduation rates

The second part of the study examined any possible differences in the financial aid packages received by OCC transfer students during their first year after transfer to Oregon State University with respect to the seven measures related to persistence listed above. There were seven possible aid packages: (1) gift aid(s), (2) loan(s), (3) work, (4) loan(s) and work, (5) gift aid(s) and work, (6) gift aid(s) and loan(s), and (7) gift aid(s), loan(s), and work.

These student groups were compared while controlling the variables of sex, classification (freshman, sophomore, junior), age by groups (18-22, 23-up), transfer grade point average (+/- .25), and residency. Conclusions regarding the effects of student financial aid were drawn.

#### Selection of Subjects

A total of 581 undergraduate students entered Oregon State University in the fall term 1975-76, transferring from one of the 13 Oregon public community colleges. Students from each of these two-year institutions were represented in this study both in the financial aid population and the non-financial aid population. A 3x5 card was developed on each student which contained name, social security number, age, classification (i.e., junior), sex, and entering grade point average. Each card was then compared to

financial aid records at the Oregon State University Financial Aid Office to determine whether a student had applied for aid and/or received financial aid during their attendance at Oregon State University. For the purposes of this study, only OCC transfer students who received student financial aid administered by the Oregon State University Financial Aid Office beginning in the 1975-76 academic year were designated as financial aid recipients. OCC transfer students who did not apply for or receive student financial aid through the Oregon State University Financial Aid Office during the study were designated non-financial aid recipients. These students made up the control group for the study.

#### Description of Student Groups

##### Financial Aid Recipients

A total of 154 Oregon community college transfer students received financial aid through the Oregon State University Financial Aid Office beginning in the 1975-76 academic year. This group contained 83 male and 71 female students.

##### Non-financial Aid Recipients

Those students who did not apply for or receive financial aid through the Oregon State University Financial Aid Office at any time during the study made up the control group. This group contained a total of 239 students, which included 182 male and 111 female students.

Each member of the financial aid recipient group was pair-

matched with a non-financial aid recipient controlling for the following variables:

1. sex
2. classification (freshman, sophomore, junior)
3. age by group (18-22, 23-up)
4. transfer grade point average (+/- .25)
5. residency

Suitable pair-matches were accomplished for 133 persons, 79 male and 54 female students.

The rationale for pair-matching individuals in this study was to achieve as close a resemblance as possible between individuals in the two groups. According to Hays (1973, p. 424),

This matching of pairs is one form of experimental control, since each member of each experimental group must be identical (or nearly so) to his pair-mate in the other group with respect to the matching factor or factors, and thus the factor or factors used to match pairs is less likely to be responsible for any observed difference in the groups than if two unmatched groups are used.

Knoell and Medsker (1965) noted that there were factors that affected community college transfer students' performances at four-year institutions. These factors included sex differences, class level at the time of transfer, transfer grade point average, and age. The pair-matching procedure was used to control for these variables.

Suitable pair-matches were not found for the following students and they were eliminated from the study:

Female:		Male:	
Freshman	2	Freshman	4
Sophomore	1	Sophomore	0
Junior	14	Junior	0
Total	17	Total	4

In this study, 86 percent of the financial aid recipients were included with 95 percent of the male financial aid recipients represented and 76 percent of the female financial aid recipients represented. A number of junior women financial aid recipients were not included in the study due to the constraint of the age and grade point average variables. Ten older women (23 and up) who received financial aid had transfer grade point averages which ranged from 2.87 to 3.95, but the only two women in the same age bracket who did not receive aid had transfer grade point averages of 2.41 and 2.26. Four junior females who were in the 18- to 22-year-old financial aid recipient group had transfer grade point averages which ranged from 2.32 to 2.50, while the nineteen non-aided females had transfer grade point averages which ranged from 2.87 to 3.89.

#### Sources of Data

Information for this study was collected from student records contained in the Oregon State University Financial Aid Office, the Center for Research on Student Life and Development, Registrar's Office, and the Student Loan Fiscal Office.

Treatment of the Data

The Oregon State University Computer Center Control Data Corporation Cyber computer was utilized in data processing and analysis. For both the community college transfer financial aid recipients and the pair-matched control group of non-financial aid recipients, the following information was available:

1. social security number
2. name
3. sex
4. classification (i.e., junior)
5. age by group
6. transfer grade point average
7. mean grade point average of recipient at the end of the first, second, third, fourth, fifth, and sixth year
8. mean academic year credit hours of recipient earned at the end of the first, second, third, fourth, fifth, and sixth years
9. whether the student withdrew from OSU by the first, second, third, fourth, fifth, or sixth year
10. whether the student was placed on academic probation by the first, second, third, fourth, fifth, or sixth year
11. whether the student was academically suspended from OSU by the first, second, third, fourth, fifth, or sixth year
12. whether the student returned to OSU fall term for the second, third, fourth, fifth, or sixth year
13. whether the student was graduated by the end of the second,

third, fourth, fifth, or sixth year

14. for each financial aid recipient, the type of financial aid (gift, loan, work) awarded was available

#### Type of Analysis

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

A one-way analysis of variance test was selected for those hypotheses using continuous variables because of its capabilities of analyzing two or more sample means. This F-test can determine whether the significant difference between the means of groups is a function of chance. The 0.05 level of confidence was used to indicate statistically significant results. If the F value exceeded the F probability, then the null hypothesis was not rejected. If, however, the F value was less than the F probability then the null hypothesis was rejected.

For those hypotheses concerned with the binominal variables of withdrawal, academic suspension, academic probation, return rate, and graduation rate, the chi-square analysis was employed to test for significant differences between the groups. Chi-square analysis can be used with two or more groups to determine whether the number of frequencies that fall into each category for one group differ significantly from the number that fall into each category for another group or groups (Sharp, 1979).

In the tests involving continuous data in which the analysis of variance indicated a significant difference between financial

aid recipients with different types of aid, the Scheffé test was conducted to determine where the difference or differences occurred between the means. The Scheffé test is a significance test used to find out which means are significantly larger than other means (Sharp, 1979).

In the tests involving chi-square analyses where a significant difference was noted among financial aid recipients with different types of aid further tests using the Pirie and Hamden formula for chi-square were conducted to determine which group or groups of subjects influenced the significant results found in the study. The Pirie and Hamden formula recommended in Downie and Heath (1974) is:

$$\chi^2 = \frac{N[(ad - bc) - 1/2]^2}{klmn}$$

	Yes	No	
Group 1 (type of aid)	a	b	k
Group 2 (type of aid)	c	d	l
m	n		N

## Chapter 4

### ANALYSIS OF DATA

This chapter presents the results of the analyses conducted for each hypothesis tested in this study.

Hypotheses 1 through 7 were tested to determine differences between two pair-matched groups: (1) Oregon Community College transfer financial aid recipients, and (2) Oregon Community College transfer non-financial aid recipients.

Hypotheses 8 through 14 were tested to determine differences between Oregon Community College transfer financial aid recipients with different types of financial aid packages awarded in the first year after transfer.

#### Hypothesis 1

There is no significant difference in the mean academic year grade point average (GPA) between Oregon Community College (OCC) transfer financial aid recipients and Oregon Community College (OCC) transfer non-financial aid recipients at the end of: (a) the first year after transfer, (b) the second year after transfer, (c) the third year after transfer, (d) the fourth year after transfer, (e) the fifth year after transfer, and (f) the sixth year after transfer.

The results of the one-way analysis of variance test for

Hypothesis 1 are shown in Table 1. (The difference between the number of students in the first year (1975-76) listed in Table 1 and in Table 2 was due to the withdrawal of nine students prior to the assignment of a grade point average for fall term 1975.) There was a significant difference during the fourth year after transfer (1978-79) in the comparison between financial aid recipients and non-financial aid recipients. Thirty-seven financial aid recipients had a mean academic year grade point average of 2.9184 while 25 non-financial aid recipients had a mean academic year grade point average of 2.3936. Although financial aid recipients achieved higher mean academic year grade point averages than non-financial aid recipients in all six years of the study, none of the other differences were found to be significant. The null hypothesis was rejected ( $p < .05, .0018$ ) for the fourth year and was not rejected for the first, second, third, fifth, and sixth years. It was concluded that receipt of financial aid influenced the significantly higher mean academic year grade point average for financial aid recipients only during the fourth year after transfer.

### Hypothesis 2

There is no significant difference in the mean academic year credit hours earned between OCC transfer financial aid recipients and OCC transfer non-financial aid recipients at the end of:

- (a) the first year after transfer, (b) the second year after transfer, (c) the third year after transfer, (d) the fourth year after

Table 1

Comparison of Mean Academic Year GPA: OCC Transfer  
 Financial Aid Recipients and OCC Transfer  
 Non-financial Aid Recipients  
 1975-76 to 1980-81

Student group	Number of students	Mean year GPA	F value	p
<u>First Year (1975-76)</u>				
a. Financial aid recipient	131	2.5853	.865	.3532
b. Non-financial aid recipient	126	2.5017		
<u>Second Year (1976-77)</u>				
a. Financial aid recipient	96	2.7143	.767	.3824
b. Non-financial aid recipient	76	2.6080		
<u>Third Year (1977-78)</u>				
a. Financial aid recipient	72	2.8178	.307	.5806
b. Non-financial aid recipient	52	2.7354		
<u>Fourth Year (1978-79)</u>				
a. Financial aid recipient	37	2.9184	6.751	.0118*
b. Non-financial aid recipient	25	2.3936		
<u>Fifth Year (1979-80)</u>				
a. Financial aid recipient	14	2.6636	.624	.4385
b. Non-financial aid recipient	9	2.3044		
<u>Sixth Year (1980-81)</u>				
a. Financial aid recipient	8	2.3113	.832	.3921
b. Non-financial aid recipient	1	1.7900		

\*Significant at 0.05 level.

transfer, (e) the fifth year after transfer, and  
(f) the sixth year after transfer.

The results of the one-way analysis of variance test for Hypothesis 2 are listed in Table 2. In the first, second, fifth, and sixth years of the study, financial aid recipients accumulated a higher mean number of credit hours than non-financial aid recipients. In the third and fourth years of the study, non-financial recipients accumulated a higher mean number of credit hours than financial aid recipients. None of the differences between the two groups were statistically significant, therefore the null hypothesis was not rejected, and it was concluded that the two groups did not differ significantly in the mean number of academic year credit hours earned.

For the data concerned with withdrawal rates, academic probation rates, and academic suspension rates, two comparisons were made to determine if any significant statistical differences existed between the two groups. One test compared the number and percentage of students in the study who were enrolled in the university each year and whether they withdrew, were placed on academic probation, or were academically suspended that year. A second comparison was made to determine any significant differences between the cumulative number and percent of students who were on academic probation, academically suspended, or withdrew one or more times by the end of each year over the course of the study.

Table 2

Comparison of Mean Academic Year Credit Hours Earned: OCC  
 Transfer Financial Aid Recipients and OCC  
 Transfer Non-financial Aid Recipients  
 1975-76 to 1980-81

Student group	Number of students	No. of credit hours (Mean)	F value	p
<b>First Year (1975-76)</b>				
a. Financial aid recipients	133	33.6767	2.137	.1449
b. Non-financial aid recipients	133	31.3233		
<b><u>Second Year (1976-77)</u></b>				
a. Financial aid recipients	97	33.1237	.052	.8196
b. Non-financial aid recipients	79	32.6835		
<b><u>Third Year (1977-78)</u></b>				
a. Financial aid recipients	73	31.4932	.266	.6067
b. Non-financial aid recipients	52	32.7500		
<b><u>Fourth Year (1978-79)</u></b>				
a. Financial aid recipients	37	28.2703	.415	.5220
b. Non-financial aid recipients	25	30.4800		
<b><u>Fifth Year (1979-80)</u></b>				
a. Financial aid recipients	14	23.8571	2.028	.1691
b. Non-financial aid recipients	9	16.0000		
<b><u>Sixth Year (1980-81)</u></b>				
a. Financial aid recipients	8	29.6250	.322	.5880
b. Non-financial aid recipients	1	19.0000		

### Hypothesis 3

There is no significant difference in the withdrawal rates between OCC transfer financial aid recipients and OCC transfer non-financial aid recipients by the end of: (a) the first year after transfer (b) the second year after transfer, (c) the third year after transfer, (d) the fourth year after transfer, (e) the fifth year after transfer, and (f) the sixth year after transfer.

The results of the chi-square tests for Hypothesis 3 are listed in Table 3 and Table 4. Table 3 shows the number and percentage of students in each group who withdrew during each year of the study. Table 4 lists the cumulative number and percentage of subjects who had withdrawn one or more times by the end of each year over the course of the study. The chi-square tests found no significant differences between the two groups, although a higher number and percentage of non-financial aid recipients withdrew during the first year of the study. In reference to the cumulative number of subjects who withdrew, Table 4 illustrates that by the end of the sixth year, 58 financial aid recipients and 57 non-financial aid recipients had withdrawn. The null hypothesis was not rejected, and it was concluded that the two groups did not differ significantly in the number of students who withdrew.

### Hypothesis 4

There is no significant difference in the academic

Table 3

Comparison of Withdrawal Rates: OCC Transfer Financial Aid Recipients and OCC Transfer Non-financial Aid Recipients - Students Enrolled Who Withdraw Each Year  
1975-76 to 1980-81

Student group	Number of Students	Percent	Chi square value	p
<u>First Year (1975-76)</u>				
a. Financial aid recipients	29	21.8	.98742	.3204
b. Non-financial aid recipients	37	27.8		
<u>Second Year (1976-77)</u>				
a. Financial aid recipients	18	18.8	0	1.0000
b. Non-financial aid recipients	14	18.4		
<u>Third Year (1977-78)</u>				
a. Financial aid recipients	13	18.1	.19267	.6607
b. Non-financial aid recipients	7	13.5		
<u>Fourth Year (1978-79)</u>				
a. Financial aid recipients	7	18.9	0	1.0000
b. Non-financial aid recipients	5	20.0		
<u>Fifth Year (1979-80)</u>				
a. Financial aid recipients	3	21.4	.02192	.8823
b. Non-financial aid recipients	3	33.3		
<u>Sixth Year (1980-81)</u>				
a. Financial aid recipients	3	37.5	N/A	N/A
b. Non-financial aid recipients	0	0		

Table 4

Comparison of Withdrawal Rates: OCC Transfer Financial Aid Recipients and OCC Transfer Non-financial Aid Recipients - Cumulative Number of Subjects Who Withdrew by the End of Each Year  
1975-76 to 1980-81

Student group	Number of Students	Percent	Chi square value	p
<u>First Year (1975-76)</u>				
a. Financial aid recipients	29	21.8	.98742	.3204
b. Non-financial aid recipients	37	27.8		
<u>Second Year (1976-77)</u>				
a. Financial aid recipients	44	33.1	.41131	.5213
b. Non-financial aid recipients	50	37.6		
<u>Third Year (1977-78)</u>				
a. Financial aid recipients	52	39.1	.14030	.7080
b. Non-financial aid recipients	56	42.1		
<u>Fourth Year (1978-79)</u>				
a. Financial aid recipients	56	42.1	0	1.0000
b. Non-financial aid recipients	57	42.9		
<u>Fifth Year (1979-80)</u>				
a. Financial aid recipients	57	42.9	0	1.0000
b. Non-financial aid recipients	57	42.9		
<u>Sixth Year (1980-81)</u>				
a. Financial aid recipients	58	43.6	0	1.0000
b. Non-financial aid recipients	57	42.9		

probation rates between OCC transfer financial aid recipients and OCC transfer non-financial aid recipients by the end of: (a) the first year after transfer, (b) the second year after transfer, (c) the third year after transfer, (d) the fourth year after transfer, (e) the fifth year after transfer, and (f) the sixth year after transfer.

The results of the chi-square tests for Hypothesis 4 are listed in Table 5 and Table 6. Table 5 shows the number and percentage of students in each group who were placed on academic probation during each year. Each group had 38 students on academic probation during the first year after transfer. There was a significant difference in the academic probation rates during the second year after transfer (1976-77). Seventeen financial aid recipients and 25 non-financial aid recipients were placed on academic probation during the second year of the study. No other significant differences were found. Table 6 contains a cumulative number and percentage of subjects who were placed on academic probation one or more times during the study. There were no significant differences between the two groups in the total number of subjects who had academic probationary status during the course of the study. By the end of the sixth year, 50 subjects in each group had been placed on academic probation during the course of the study. The null hypothesis was not rejected for the cumulative number of subjects placed on academic probation one or more times during

Table 5

Comparison of Academic Probation Rates: OCC Transfer Financial Aid Recipients and OCC Transfer Non-financial Aid Recipients - Students Enrolled Who Were Placed on Academic Probation Each Year  
1975-76 to 1980-81

Student group	Number of Students	Percent	Chi square value	p
<u>First Year (1975-76)</u>				
a. Financial aid recipients	38	28.6	0	1.0000
b. Non-financial aid recipients	38	28.6		
<u>Second Year (1976-77)</u>				
a. Financial aid recipients	17	17.7	4.50975	.0337*
b. Non-financial aid recipients	25	32.9		
<u>Third Year (1977-78)</u>				
a. Financial aid recipients	10	13.9	0	1.0000
b. Non-financial aid recipients	7	13.5		
<u>Fourth Year (1978-79)</u>				
a. Financial aid recipients	3	8.1	3.01738	.0824
b. Non-financial aid recipients	7	28.0		
<u>Fifth Year (1979-80)</u>				
a. Financial aid recipients	2	14.3	0	1.0000
b. Non-financial aid recipients	2	22.2		
<u>Sixth Year (1980-81)</u>				
a. Financial aid recipients	0	0	N/A	N/A
b. Non-financial aid recipients	1	100		

\*Significant at 0.05 level.

Table 6

Comparison of Academic Probation Rates: OCC Transfer Financial Aid Recipients and OCC Transfer Non-financial Aid Recipients - Cumulative Number of Subjects Who Were Placed on Academic Probation by the End of Each Year  
1975-76 to 1980-81

Student group	Number of students	Percent	Chi square value	p
<u>First Year (1975-76)</u>				
a. Financial aid recipients	38	28.6	0	1.0000
b. Non-financial aid recipients	38	28.6		
<u>Second Year (1976-77)</u>				
a. Financial aid recipients	44	33.1	.14955	.6990
b. Non-financial aid recipients	48	36.1		
<u>Third Year (1977-78)</u>				
a. Financial aid recipients	48	36.1	.01616	.8989
b. Non-financial aid recipients	50	37.6		
<u>Fourth Year (1978-79)</u>				
a. Financial aid recipients	49	36.8	0	1.0000
b. Non-financial aid recipients	59	37.6		
<u>Fifth Year (1979-80)</u>				
a. Financial aid recipients	50	37.6	0	1.0000
b. Non-financial aid recipients	50	37.6		
<u>Sixth Year (1980-81)</u>				
a. Financial aid recipients	50	37.6	0	1.0000
b. Non-financial aid recipients	50	37.6		

the study. The null hypothesis was rejected ( $p < .05$ , .0337) for the second year and not rejected for the first, third, fourth, fifth, and sixth years based on Table 5. It was concluded that receipt of financial aid influenced the significantly lower number of financial aid recipients placed on academic probation only during the second year after transfer.

#### Hypothesis 5

There is no significant difference in the academic suspension rates between OCC transfer financial aid recipients and OCC transfer non-financial aid recipients by the end of: (a) the first year after transfer, (b) the second year after transfer, (c) the third year after transfer, (d) the fourth year after transfer, (e) the fifth year after transfer, and (f) the sixth year after transfer.

The results of the chi-square tests for Hypothesis 5 are included in Table 7 and Table 8. Table 7 shows the number and percentage of students in each group who were academically suspended during that year. Table 8 lists the cumulative number and percentage of subjects at the end of each year who were academically suspended one or more times over the course of the study. Over the six-year period of the study, the two groups were almost equal in number of subjects academically suspended based on both Table 7 and Table 8. By the end of the sixth year, eight financial aid recipients and nine non-financial aid recipients had been

Table 7

Comparison of Academic Suspension Rates: OCC Transfer Financial Aid Recipients and OCC Transfer Non-financial Aid Recipients - Students Enrolled Who Were Suspended Each Year  
1975-76 to 1980-81

Student group	Number of students	Percent	Chi square value	p
<u>First Year (1975-76)</u>				
a. Financial aid recipients	3	2.3	.12888	.7196
b. Non-financial aid recipients	5	3.8		
<u>Second Year (1976-77)</u>				
a. Financial aid recipients	3	3.1	0	1.0000
b. Non-financial aid recipients	2	2.6		
<u>Third Year (1977-78)</u>				
a. Financial aid recipients	1	1.4	0	1.0000
b. Non-financial aid recipients	1	1.9		
<u>Fourth Year (1978-79)</u>				
a. Financial aid recipients	1	2.7	.12269	.7261
b. Non-financial aid recipients	2	8.0		
<u>Fifth Year (1979-80)</u>				
a. Financial aid recipients	1	7.1	0	1.0000
b. Non-financial aid recipients	1	11.1		
<u>Sixth Year (1980-81)</u>				
a. Financial aid recipients	2	25.0	N/A	N/A
b. Non-financial aid recipients	0	0		

Table 8

Comparison of Academic Suspension Rates: OCC Transfer Financial Aid Recipients and OCC Transfer Non-financial Aid Recipients - Cumulative Number of Subjects Who Were Suspended by the End of Each Year  
1975-76 to 1980-81

Student group	Number of students	Percent	Chi square value	p
<u>First Year (1975-76)</u>				
a. Financial aid recipients	3	2.3	.12888	.7196
b. Non-financial aid recipients	5	3.8		
<u>Second Year (1976-77)</u>				
a. Financial aid recipients	6	4.5	0	1.0000
b. Non-financial aid recipients	7	5.3		
<u>Third Year (1977-78)</u>				
a. Financial aid recipients	6	4.5	0	1.0000
b. Non-financial aid recipients	7	5.3		
<u>Fourth Year (1978-79)</u>				
a. Financial aid recipients	7	5.3	.06650	.7965
b. Non-financial aid recipients	9	6.8		
<u>Fifth Year (1979-80)</u>				
a. Financial aid recipients	8	6.0	0	1.0000
b. Non-financial aid recipients	9	6.8		
<u>Sixth Year (1980-81)</u>				
a. Financial aid recipients	8	6.0	0	1.0000
b. Non-financial aid recipients	9	6.8		

academically suspended. Since there was no significant difference between the two groups, the null hypothesis was not rejected. Thus, it was concluded that the two groups did not differ significantly in the number of students who were suspended.

#### Hypothesis 6

There is no significant difference in fall term return rates between OCC transfer financial aid recipients and OCC transfer non-financial aid recipients at the beginning of: (a) the second year after transfer, (b) the third year after transfer, (c) the fourth year after transfer, (d) the fifth year after transfer, and (e) the sixth year after transfer.

The results of the chi-square tests for Hypothesis 6 are listed in Table 9. Table 9 compares the percentage of non-graduates who returned fall term each year. Significant differences between the two groups were found in the third year after transfer (1977-78). A significantly higher number of OCC transfer financial aid recipients returned fall term 1977. Fall term return rates for the second, fourth, fifth, and sixth years were not significant. The null hypothesis was rejected ( $p < .05, .0137$ ) for the third year and not rejected for the second, fourth, fifth, and sixth years. Thus, it was concluded that receipt of financial aid influenced the significantly higher number of financial aid

Table 9

Comparison of Fall Term Return Rates: OCC Transfer  
 Financial Aid Recipients and OCC Transfer  
 Non-financial Aid Recipients  
 1976-77 to 1980-81

Student group	Number of Students	Percent	Chi square value	p
<u>Second Year (1976-77)</u>				
a. Financial aid recipients	87	65.4	2.26584	.1323
b. Non-financial aid recipients	74	55.6		
<u>Third Year (1977-78)</u>				
a. Financial aid recipients	64	53.3	6.07744	.0137*
b. Non-financial aid recipients	44	36.7		
<u>Fourth Year (1978-79)</u>				
a. Financial aid recipients	33	34.7	2.41744	.1200
b. Non-financial aid recipients	22	23.4		
<u>Fifth Year (1979-80)</u>				
a. Financial aid recipients	11	15.7	1.00126	.3170
b. Non-financial aid recipients	7	9.0		
<u>Sixth Year (1980-81)</u>				
a. Financial aid recipients	6	10.0	3.26983	.0706
b. Non-financial aid recipients	1	1.4		

\*Significant at 0.05 level.

recipients who returned at the beginning of fall term only during the third year after transfer.

#### Hypothesis 7

There is no significant difference in graduation rates between OCC transfer financial aid recipients and OCC transfer non-financial aid recipients by the end of: (a) the second year after transfer, (b) the third year after transfer, (c) the fourth year after transfer, (d) the fifth year after transfer, and (e) the sixth year after transfer.

The results of the chi-square tests for Hypothesis 7 are presented in Table 10 and Table 11. In the comparison of graduation rates between the two groups, Table 10 shows the number and percentage of students in each group who graduated during that year. Only those students who had not previously graduated were considered in the percentage for this test. Table 11 lists the cumulative number and percentage of subjects who had graduated by that year. During the first two years of the study it was found that the two groups were statistically equal in number of graduates; however, Table 10 shows that a higher number and percentage of financial aid recipients graduated each year during the fourth, fifth and sixth years of the study. Table 11 shows that a higher cumulative number and percentage of subjects graduated by the end of the fourth, fifth and sixth years of the study. A total of 13 more

Table 10

Comparison of Graduate Rates: OCC Transfer Financial Aid Recipients and OCC Transfer Non-financial Aid Recipients - Previous Non-graduates Who Graduated Each Year  
1976-77 to 1980-81

Student group	Number of students	Percent	Chi square value	p
<u>Second Year (1976-77)</u>				
a. Financial aid recipients	13	9.8	0	1.0000
b. Non-financial aid recipients	13	9.8		
<u>Third Year (1977-78)</u>				
a. Financial aid recipients	25	20.8	0	1.0000
b. Non-financial aid recipients	26	21.7		
<u>Fourth Year (1978-79)</u>				
a. Financial aid recipients	25	26.3	1.88682	.1696
b. Non-financial aid recipients	16	17.0		
<u>Fifth Year (1979-80)</u>				
a. Financial aid recipients	10	14.3	1.04980	.3056
b. Non-financial aid recipients	6	7.7		
<u>Sixth Year (1980-81)</u>				
a. Financial aid recipients	2	3.3	.02558	.8729
b. Non-financial aid recipients	1	1.4		

Table 11

Comparison of Graduation Rates: OCC Transfer Financial Aid Recipients and OCC Transfer Non-financial Aid Recipients - Cumulative Number of Subjects Who Graduated by the End of Each Year  
1976-77 to 1980-81

Student group	Number of students	Percent	Chi square value	p
<u>Second Year (1976-77)</u>				
a. Financial aid recipients	13	9.8	0	1.0000
b. Non-financial aid recipients	13	9.8		
<u>Third Year (1977-78)</u>				
a. Financial aid recipients	38	28.6	0	1.0000
b. Non-financial aid recipients	39	29.3		
<u>Fourth Year (1978-79)</u>				
a. Financial aid recipients	63	47.4	.74634	.3876
b. Non-financial aid recipients	55	41.4		
<u>Fifth Year (1979-80)</u>				
a. Financial aid recipients	73	54.9	1.81965	.1774
b. Non-financial aid recipients	61	45.9		
<u>Sixth Year (1980-81)</u>				
a. Financial aid recipients	75	56.4	2.16737	.1410
b. Non-financial aid recipients	62	46.6		

financial aid recipients successfully completed requirements for the baccalaureate degree. Since the differences between the groups were not statistically significant, the null hypothesis was not rejected. It was concluded that the two groups did not differ significantly in the number who graduated during the period covered by the study.

#### Hypothesis 8

There is no significant difference between the type(s) of financial aid awarded and the mean grade point average (GPA) for OCC transfer financial aid recipients at the end of: (a) the first year after transfer, (b) the second year after transfer, (c) the third year after transfer, (d) the fourth year after transfer, (e) the fifth year after transfer, and (f) the sixth year after transfer.

The results of the one-way analysis of variance test for Hypothesis 8 are listed in Table 12. (The difference between the number of subjects listed in Table 12 and Table 13 for the first year (1975-1976) was due to the withdrawal of two students prior to the assignment of a grade point average for fall 1975.) There was a significant difference in the second year after transfer (1976-1977) for subjects with different types of financial aid packages. The mean academic year grade point average ranged from 3.48 for the eight subjects who received gift aid(s) and work to

Table 12

Comparison of Mean Academic Year GPA: OCC Transfer Financial Aid Recipients with Different Types of Financial Aid Awards  
1975-76 to 1980-81

Type of financial aid award	Number of students	Mean year GPA	F value	p
<u>First Year (1975-76)</u>				
1. Gift aid only	24	2.4325	1.663	.1355
2. Loan only	36	2.5950		
3. Work only	10	2.3450		
4. Loan(s) and work	12	2.8183		
5. Gift aid(s) and work	12	2.9608		
6. Gift aid(s) and loan(s)	17	2.3794		
7. Gift aid(s) and loan(s) and work	20	2.6815		
<u>Second Year (1976-77)</u>				
1. Gift aid only	14	2.6693	2.381	.0352*
2. Loan only	28	2.5693		
3. Work only	6	2.7950		
4. Loan(s) and work	9	2.9456		
5. Gift aid(s) and work	8	3.4825		
6. Gift aid(s) and loan(s)	14	2.3850		
7. Gift aid(s) and loan(s) and work	17	2.7488		
<u>Third Year (1977-78)</u>				
1. Gift aid only	11	2.9718	1.665	.1438
2. Loan only	19	2.6068		
3. Work only	4	2.1825		
4. Loan(s) and work	8	2.9063		
5. Gift aid(s) and work	6	3.5450		
6. Gift aid(s) and loan(s)	10	2.7210		
7. Gift aid(s) and loan(s) and work	14	2.8714		

Table 12 (continued)

Type of financial aid award	Number of students	Mean year GPA	F value	p
<u>Fourth Year (1978-79)</u>				
1. Gift aid only	8	2.9525	1.861	.1300
2. Loan only	8	2.5438		
3. Work only	3	2.8233		
4. Loan(s) and work	6	3.1000		
5. Gift aid(s) and work	5	3.4080		
6. Gift aid(s) and loan(s)	7	2.8429		
7. Gift aid(s) and loan(s) and work	0	N/A		
<u>Fifth Year (1979-80)</u>				
1. Gift aid only	1	1.7900	1.103	.4285
2. Loan only	7	2.7229		
3. Work only	2	3.4350		
4. Loan(s) and work	1	3.7400		
5. Gift aid(s) and work	1	2.9400		
6. Gift aid(s) and loan(s)	2	1.4450		
7. Gift aid(s) and loan(s) and work	0	N/A		
<u>Sixth Year (1980-81)</u>				
1. Gift aid only	2	2.6450	3.300	.1771
2. Loan only	1	1.7300		
3. Work only	0	N/A		
4. Loan(s) and work	0	N/A		
5. Gift aid(s) and work	1	2.2500		
6. Gift aid(s) and loan(s)	3	2.6067		
7. Gift aid(s) and loan(s) and work	1	1.4000		

\*Significant at 0.05 level.

2.38 for the 14 subjects who received gift aid(s) and loan(s). A multiple significance, the Scheffé test, did not determine where the difference occurred among the groups. There were no significant differences found in any other years. The null hypothesis was rejected ( $p < .05$ , .0352) for the second year and not rejected for the first, third, fourth, fifth and sixth years and it was concluded that the type of aid awarded influenced the mean academic year grade point average only during the second year after transfer.

#### Hypothesis 9

There is no significant difference between the type(s) of financial aid awarded and the mean academic year credit hours earned for OCC transfer financial aid recipients at the end of: (a) the first year after transfer, (b) the second year after transfer, (c) the third year after transfer, (d) the fourth year after transfer, (e) the fifth year after transfer, and (f) the sixth year after transfer.

The results of the one-way analysis of variance test for Hypothesis 9 are listed in Table 13. There was a significant difference in the second year after transfer (1976-77) for subjects with different types of financial aid packages. The mean academic year credit hours earned ranged from 40.00 for the nine subjects who received loan(s) and work to 22.42 for the seven subjects who received work only. A multiple significance test, the Scheffé test, did not determine where the difference occurred among the

Table 13

Comparison of Mean Academic Year Credit Hours Earned: OCC  
 Transfer Financial Aid Recipients with Different  
 Types of Financial Aid Awards  
 1975-76 to 1980-81

Type of financial aid award	Number of students	Number of hours (Mean)	F value	p
<u>First Year (1975-76)</u>				
1. Gift aid only	25	32.7200	1.131	.3480
2. Loan only	36	35.4167		
3. Work only	10	30.7000		
4. Loan(s) and work	12	37.0833		
5. Gift aid(s) and work	13	31.5385		
6. Gift aid(s) and loan(s)	17	29.1765		
7. Gift aid(s) and loan(s) and work	20	36.4000		
<u>Second Year (1976-77)</u>				
1. Gift aid only	14	37.1429	2.310	.0404*
2. Loan only	28	31.0000		
3. Work only	7	22.4286		
4. Loan(s) and work	9	40.0000		
5. Gift aid(s) and work	8	33.3750		
6. Gift aid(s) and loan(s)	14	31.4286		
7. Gift aid(s) and loan(s) and work	17	35.3529		
<u>Third Year (1977-78)</u>				
1. Gift aid only	11	35.5455	1.208	.3136
2. Loan only	19	31.9474		
3. Work only	4	28.7500		
4. Loan(s) and work	8	36.6250		
5. Gift aid(s) and work	6	31.0000		
6. Gift aid(s) and loan(s)	11	34.4545		
7. Gift aid(s) and loan(s) and work	14	23.4286		

Table 13 (continued)

Type of financial aid award	Number of students	Number of hours (Mean)	F value	p
<u>Fourth Year (1978-79)</u>				
1. Gift aid only	8	28.5000	1.477	.2257
2. Loan only	8	34.8750		
3. Work only	3	18.6667		
4. Loan(s) and work	6	23.8333		
5. Gift aid(s) and work	5	35.0000		
6. Gift aid(s) and loan(s)	7	23.5714		
7. Gift aid(s) and loan(s) and work	0	N/A		
<u>Fifth Year (1979-80)</u>				
1. Gift aid only	1	29.0000	.627	.6843
2. Loan only	7	25.2857		
3. Work only	2	10.5000		
4. Loan(s) and work	1	31.0000		
5. Gift aid(s) and work	1	36.0000		
6. Gift aid(s) and loan(s)	2	20.0000		
7. Gift aid(s) and loan(s) and work	0	N/A		
<u>Sixth Year (1980-81)</u>				
1. Gift aid only	2	36.5000	2.424	.2465
2. Loan only	1	59.0000		
3. Work only	0	N/A		
4. Loan(s) and work	0	N/A		
5. Gift aid(s) and work	1	12.0000		
6. Gift aid(s) and loan(s)	3	27.6667		
7. Gift aid(s) and loan(s) and work	1	10.0000		

\*Significant at 0.05 level.

groups. There were no other significant differences found. The null hypothesis was rejected ( $p < .05$ , .0404) for the second year and not rejected for the first, third, fourth, fifth, and sixth years and it was concluded that the type of aid awarded influenced the mean academic year credit hours earned only during the second year after transfer.

For data concerned with withdrawal rates, academic probation rates, and academic suspension rates, two comparisons were made to determine if any statistical differences existed among OCC transfer students and the type of financial aid awarded. One test compared the number and percentage of students with different types of aid who were enrolled in the university each year and whether they withdrew, were placed on academic probation or academic suspension that year. A second comparison was made to determine any significant differences between the cumulative number and percent of students with different types of aid who were on academic probation, academic suspension, or withdrew during one or more times by the end of each year over the course of the study.

#### Hypothesis 10

There is no significant difference between the type(s) of financial aid awarded and the withdrawal rates for OCC transfer financial aid recipients by the end of: (a) the first year after transfer, (b) the second year after transfer, (c) the third year after transfer, (d) the fourth

year after transfer, (e) the fifth year after transfer, and (f) the sixth year after transfer.

The results of the chi-square test for Hypothesis 10 are listed in Table 14 and Table 15. Table 14 shows the number and percentage of students enrolled with different types of financial aid awards who withdrew during that year. Table 15 lists the cumulative number and percentage of subjects at the end of each year who withdrew one or more times over the course of the study. Since no significant differences were found in any of the six years of the study in both Table 14 and Table 15, the null hypothesis was not rejected, and it was concluded that the type of financial aid awarded did not influence whether a financial aid recipient withdrew.

#### Hypothesis 11

There is no significant difference between the type(s) of financial aid awarded and the academic probation rates for OCC transfer financial aid recipients by the end of: (a) the first year after transfer, (b) the second year after transfer, (c) the third year after transfer, (d) the fourth year after transfer, (e) the fifth year after transfer, and (f) the sixth year after transfer.

The results of the chi-square test for Hypothesis 11 are listed in Table 16 and Table 17. Table 16 shows the number and

Table 14

Comparison of Withdrawal Rates: OCC Transfer Financial Aid Recipients with Different Types of Financial Aid Awards - Students Enrolled Who Withdraw Each Year  
1975-76 to 1980-81

Type of financial aid award	Number of students	Percent	Chi square value	p
<u>First Year (1975-76)</u>				
1. Gift aid only	9	6.8	5.94084	.4299
2. Loan only	6	4.5		
3. Work only	2	1.5		
4. Loan(s) and work	1	.8		
5. Gift aid(s) and work	3	2.3		
6. Gift aid(s) and loan(s)	5	3.8		
7. Gift aid(s) and loan(s) and work	3	2.3		
<u>Second Year (1976-77)</u>				
1. Gift aid only	2	2.1	4.10027	.6631
2. Loan only	7	7.3		
3. Work only	2	2.1		
4. Loan(s) and work	0	0		
5. Gift aid(s) and work	1	1.0		
6. Gift aid(s) and loan(s)	3	3.1		
7. Gift aid(s) and loan(s) and work	3	3.1		
<u>Third Year (1977-78)</u>				
1. Gift aid only	2	2.8	1.46990	.9615
2. Loan only	3	4.2		
3. Work only	1	1.4		
4. Loan(s) and work	1	1.4		
5. Gift aid(s) and work	2	2.8		
6. Gift aid(s) and loan(s)	2	2.8		
7. Gift aid(s) and loan(s) and work	2	2.8		

Table 14 (continued)

Type of financial aid award	Number of students	Percent	Chi square value	p
<u>Fourth Year (1978-79)</u>				
1. Gift aid only	1	2.7	2.42577	.7876
2. Loan only	2	5.4		
3. Work only	1	2.7		
4. Loan(s) and work	1	2.7		
5. Gift aid(s) and work	0	0		
6. Gift aid(s) and loan(s)	2	5.4		
7. Gift aid(s) and loan(s) and work	0	0		
<u>Fifth Year (1979-80)</u>				
1. Gift aid only	1	7.1	5.93939	.3122
2. Loan only	1	7.1		
3. Work only	0	0		
4. Loan(s) and work	0	0		
5. Gift aid(s) and work	0	0		
6. Gift aid(s) and loan(s)	1	7.1		
7. Gift aid(s) and loan(s) and work	0	0		
<u>Sixth Year (1980-81)</u>				
1. Gift aid only	0	0	5.15556	.2717
2. Loan only	0	0		
3. Work only	0	0		
4. Loan(s) and work	0	0		
5. Gift aid(s) and work	0	0		
6. Gift aid(s) and loan(s)	2	25.0		
7. Gift aid(s) and loan(s) and work	1	12.5		

Table 15

Comparison of Withdrawal Rates: OCC Transfer Financial Aid Recipients with Different Types of Financial Aid Awards - Cumulative Number of Subjects Who Withdraw by the End of Each Year  
1975-76 to 1980-81

Type if financial aid award	Number of students	Percent	Chi square value	p
<u>First Year (1975-76)</u>				
1. Gift aid only	9	6.8	5.94084	.4299
2. Loan only	6	4.5		
3. Work only	2	1.5		
4. Loan(s) and work	1	.8		
5. Gift aid(s) and work	3	2.3		
6. Gift aid(s) and loan(s)	5	3.8		
7. Gift aid(s) and loan(s) and work	3	2.3		
<u>Second Year (1976-77)</u>				
1. Gift aid only	9	6.8	5.33048	.5022
2. Loan only	12	9.0		
3. Work only	5	3.8		
4. Loan(s) and work	1	.8		
5. Gift aid(s) and work	4	3.0		
6. Gift aid(s) and loan(s)	7	5.3		
7. Gift aid(s) and loan(s) and work	6	4.5		
<u>Third Year (1977-78)</u>				
1. Gift aid only	10	7.5	5.79927	.4460
2. Loan only	16	10.5		
3. Work only	6	4.5		
4. Loan(s) and work	3	1.5		
5. Gift aid(s) and work	6	4.5		
6. Gift aid(s) and loan(s)	8	6.0		
7. Gift aid(s) and loan(s) and work	6	4.5		

Table 15 (continued)

Type of financial aid award	Number of students	Percent	Chi square value	p
<u>Fourth Year (1978-79)</u>				
1. Gift aid only	11	8.3	4.33241	.6318
2. Loan only	16	12.0		
3. Work only	6	4.5		
4. Loan(s) and work	3	2.3		
5. Gift aid(s) and work	6	4.5		
6. Gift aid(s) and loan(s)	8	6.0		
7. Gift aid(s) and loan(s) and work	6	4.5		
<u>Fifth Year (1979-80)</u>				
1. Gift aid only	11	8.3	4.58617	.5979
2. Loan only	17	12.8		
3. Work only	6	4.5		
4. Loan(s) and work	3	2.3		
5. Gift aid(s) and work	6	4.5		
6. Gift aid(s) and loan(s)	8	6.0		
7. Gift aid(s) and loan(s) and work	6	4.5		
<u>Sixth Year (1980-81)</u>				
1. Gift aid only	11	8.3	5.11753	.5288
2. Loan only	17	12.8		
3. Work only	6	4.5		
4. Loan(s) and work	3	2.3		
5. Gift aid(s) and work	6	4.5		
6. Gift aid(s) and loan(s)	9	6.8		
7. Gift aid(s) and loan(s) and work	6	4.5		

percentage of students enrolled with different types of financial aid awards who were on academic probation during that year. Table 17 lists the cumulative number and percentage of subjects at the end of each year who were on probation one or more times over the course of the study. A significant difference was found in the second year after transfer (1976-77) noted in Table 17. The probation rates ranged from 52.9 percent representing the nine subjects who had received gift aid(s) and loan(s) and 41.7 percent for 15 subjects who received loan only to 0 percent representing those who had received gift aid(s) and work. Computation and examination of chi-square subtables was attempted to ascertain which part of the overall tables contributed most to the total chi-square. These results indicated that the three groups noted above had the major influence on the significant results found in the second year. During the entire six years covered in the study, no subjects who had received gift aid(s) and work in their first year were placed on probation. The null hypothesis was not rejected for the number and percentage of students enrolled each year who were placed on academic probation. No significant differences were found in the other years. The null hypothesis was rejected ( $p < .05, .0452$ ) for the second year and not rejected for the first, third, fourth, and fifth years, based on Table 17. No conclusion was drawn for the sixth year probation rates because no OCC transfer financial aid recipients were on probation that year. It was concluded that the type of aid awarded influenced whether a student was placed on academic probation only by the

Table 16

Comparison of Academic Probation Rates: OCC Transfer Financial Aid Recipients with Different Types of Financial Aid Awards - Subjects Enrolled Who Were Placed on Academic Probation Each Year  
1975-76 to 1980-81

Type of financial aid award	Number of students	Percent	Chi square value	p
<u>First Year (1975-76)</u>				
1. Gift aid only	7	5.3	8.96531	.1755
2. Loan only	13	9.8		
3. Work only	4	3.0		
4. Loan(s) and work	3	2.3		
5. Gift aid(s) and work	0	0		
6. Gift aid(s) and loan(s)	7	5.3		
7. Gift aid(s) and loan(s) and work	4	3.0		
<u>Second Year (1976-77)</u>				
1. Gift aid only	2	2.1	6.89489	.3307
2. Loan only	7	7.3		
3. Work only	2	2.1		
4. Loan(s) and work	1	1.0		
5. Gift aid(s) and work	0	0		
6. Gift aid(s) and loan(s)	4	4.2		
7. Gift aid(s) and loan(s) and work	1	1.0		
<u>Third Year (1977-78)</u>				
1. Gift aid only	0	0	7.48762	.2781
2. Loan only	3	4.2		
3. Work only	2	2.8		
4. Loan(s) and work	1	1.4		
5. Gift aid(s) and work	0	0		
6. Gift aid(s) and loan(s)	2	2.8		
7. Gift aid(s) and loan(s) and work	2	2.8		

Table 16 (continued)

Type of financial aid award	Number of students	Percent	Chi square value	p
<u>Fourth Year (1978-79)</u>				
1. Gift aid only	1	2.7	5.12377	.4010
2. Loan only	2	5.4		
3. Work only	0	0		
4. Loan(s) and work	0	0		
5. Gift aid(s) and work	0	0		
6. Gift aid(s) and loan(s)	0	0		
7. Gift aid(s) and loan(s) and work	0	0		
<u>Fifth Year (1979-80)</u>				
1. Gift aid only	1	7.1	9.91667	.0776
2. Loan only	0	0		
3. Work only	0	0		
4. Loan(s) and work	0	0		
5. Gift aid(s) and work	0	0		
6. Gift aid(s) and loan(s)	1	7.1		
7. Gift aid(s) and loan(s) and work	0	0		
<u>Sixth Year (1980-81)</u>				
1. Gift aid only	0	0	N/A	N/A
2. Loan only	0	0		
3. Work only	0	0		
4. Loan(s) and work	0	0		
5. Gift aid(s) and work	0	0		
6. Gift aid(s) and loan(s)	0	0		
7. Gift aid(s) and loan(s) and work	0	0		

Table 17

Comparison of Academic Probation Rates: OCC Transfer Financial Aid Recipients with Different Types of Financial Aid Awards - Cumulative Number of Subjects Who Were Placed on Academic Probation by the End of Each Year  
1975-76 to 1980-81

Type of financial aid award	Number of students	Percent	Chi square value	p
<u>First Year (1975-76)</u>				
1. Gift aid only	7	5.3	8.96531	.1755
2. Loan only	13	9.8		
3. Work only	4	3.0		
4. Loan(s) and work	3	2.3		
5. Gift aid(s) and work	0	0		
6. Gift aid(s) and loan(s)	7	5.3		
7. Gift aid(s) and loan(s) and work	4	3.0		
<u>Second Year (1976-77)</u>				
1. Gift aid only	9	6.8	12.86615	.0452*
2. Loan only	15	11.3		
3. Work only	4	3.0		
4. Loan(s) and work	3	2.3		
5. Gift aid(s) and work	0	0		
6. Gift aid(s) and loan(s)	9	6.8		
7. Gift aid(s) and loan(s) and work	4	3.0		
<u>Third Year (1977-78)</u>				
1. Gift aid only	9	6.8	10.95089	.0899
2. Loan only	16	12.0		
3. Work only	4	3.0		
4. Loan(s) and work	4	3.0		
5. Gift aid(s) and work	0	0		
6. Gift aid(s) and loan(s)	9	6.8		
7. Gift aid(s) and loan(s) and work	6	4.5		

Table 17 (continued)

Type of financial aid award	Number of students	Percent	Chi square value	p
<u>Fourth Year (1978-79)</u>				
1. Gift aid only	10	7.5	10.98694	.0888
2. Loan only	16	12.0		
3. Work only	4	3.0		
4. Loan(s) and work	4	3.0		
5. Gift aid(s) and work	0	0		
6. Gift aid(s) and loan(s)	9	6.8		
7. Gift aid(s) and loan(s) and work	6	4.5		
<u>Fifth Year (1979-80)</u>				
1. Gift aid only	11	8.3	11.30458	.0791
2. Loan only	16	12.0		
3. Work only	4	3.0		
4. Loan(s) and work	4	3.0		
5. Gift aid(s) and work	0	0		
6. Gift aid(s) and loan(s)	9	6.8		
7. Gift aid(s) and loan(s) and work	6	4.5		
<u>Sixth Year (1980-81)</u>				
1. Gift aid only	11	8.3	11.30458	.0794
2. Loan only	16	12.0		
3. Work only	4	3.0		
4. Loan(s) and work	4	3.0		
5. Gift aid(s) and work	0	0		
6. Gift aid(s) and loan(s)	9	6.8		
7. Gift aid(s) and loan(s) and work	6	4.5		

\*Significant at the 0.05 level.

second year after transfer.

Hypothesis 12.

There is no significant difference between the type(s) of financial aid awarded and the academic suspension rate for OCC transfer financial aid recipients by the end of: (a) the first year after transfer, (b) the second year after transfer, (c) the third year after transfer, (d) the fourth year after transfer, (e) the fifth year after transfer, and (f) the sixth year after transfer.

The results of the chi-square test for Hypothesis 12 are shown in Table 18 and Table 19. Table 18 shows the number and percentage of students enrolled with different types of financial aid awards who were academically suspended during that year. Table 19 lists the cumulative number and percentage of subjects at the end of each year who were academically suspended one or more times over the course of the study. No significant differences were found due to the very small numbers of subjects in this category based on Table 18 and Table 19. Only nine subjects were placed on academic suspension by the end of the sixth year. The null hypothesis was not rejected, and it was concluded that the type of aid awarded did not influence whether a financial aid recipient was suspended from the university.

Hypothesis 13

There is no significant difference between the

Table 18

Comparison of Academic Suspension Rates: OCC Transfer Financial Aid Recipients with Different Types of Financial Aid Awards - Subjects Enrolled Who Were Suspended Each Year  
1975-76 to 1980-81

Type of financial aid award	Number of students	Percent	Chi square value	p
<u>First Year (1975-76)</u>				
1. Gift aid only	1	.8	6.01368	.4217
2. Loan only	0	0		
3. Work only	0	0		
4. Loan(s) and work	1	.8		
5. Gift aid(s) and work	1	.8		
6. Gift aid(s) and loan(s)	0	0		
7. Gift aid(s) and loan(s) and work	0	0		
<u>Second Year (1976-77)</u>				
1. Gift aid only	0	0	2.38547	.8811
2. Loan only	1	1.0		
3. Work only	0	0		
4. Loan(s) and work	0	0		
5. Gift aid(s) and work	0	0		
6. Gift aid(s) and loan(s)	1	1.0		
7. Gift aid(s) and loan(s) and work	1	1.0		
<u>Third Year (1977-78)</u>				
1. Gift aid only	0	0	4.20121	.6495
2. Loan only	0	0		
3. Work only	0	0		
4. Loan(s) and work	0	0		
5. Gift aid(s) and work	0	0		
6. Gift aid(s) and loan(s)	0	0		
7. Gift aid(s) and loan(s) and work	1	1.4		

Table 18 (continued)

Type of financial aid award	Number of students	Percent	Chi square value	p
<u>Fourth Year (1978-79)</u>				
1. Gift aid only	0	0	4.40476	.4927
2. Loan only	0	0		
3. Work only	0	0		
4. Loan(s) and work	0	0		
5. Gift aid(s) and work	0	0		
6. Gift aid(s) and loan(s)	1	2.7		
7. Gift aid(s) and loan(s) and work	0	0		
<u>Fifth Year (1979-80)</u>				
1. Gift aid only	0	0	1.07692	.9561
2. Loan only	1	7.1		
3. Work only	0	0		
4. Loan(s) and work	0	0		
5. Gift aid(s) and work	0	0		
6. Gift aid(s) and loan(s)	0	0		
7. Gift aid(s) and loan(s) and work	0	0		
<u>Sixth Year (1980-81)</u>				
1. Gift aid only	0	0	8.00000	.0961
2. Loan only	1	12.5		
3. Work only	0	0		
4. Loan(s) and work	0	0		
5. Gift aid(s) and work	0	0		
6. Gift aid(s) and loan(s)	0	0		
7. Gift aid(s) and loan(s) and work	1	12.5		

Table 19

Comparison of Academic Suspension Rates: OCC Transfer Financial Aid Recipients with Different Types of Financial Aid Awards - Cumulative Number of Subjects Who Were Suspended by the End of Each Year  
1975-76 to 1980-81

Type of financial aid award	Number of students	Percent	Chi square value	p
<u>First Year (1975-76)</u>				
1. Gift aid only	1	.8	6.01368	.4217
2. Loan only	0	0		
3. Work only	0	0		
4. Loan(s) and work	1	.8		
5. Gift aid(s) and work	1	.8		
6. Gift aid(s) and loan(s)	0	0		
7. Gift aid(s) and loan(s) and work	0	0		
<u>Second Year (1976-77)</u>				
1. Gift aid only	1	.8	1.53632	.9572
2. Loan only	1	.8		
3. Work only	0	0		
4. Loan(s) and work	1	.8		
5. Gift aid(s) and work	1	.8		
6. Gift aid(s) and loan(s)	1	.8		
7. Gift aid(s) and loan(s) and work	1	.8		
<u>Third Year (1977-78)</u>				
1. Gift aid only	1	.8	1.53632	.9570
2. Loan only	1	.8		
3. Work only	0	0		
4. Loan(s) and work	1	.8		
5. Gift aid(s) and loan(s)	1	.8		
6. Gift aid(s) and loan(s)	1	.8		
7. Gift aid(s) and loan(s) and work	1	.8		

Table 19 (continued)

Type of financial aid award	Number of students	Percent	Chi square value	p
<u>Fourth Year (1978-79)</u>				
1. Gift aid only	1	.8	2.90620	.8205
2. Loan only	1	.8		
3. Work only	0	0		
4. Loan(s) and work	1	.8		
5. Gift aid(s) and work	1	.8		
6. Gift aid(s) and loan(s)	2	1.5		
7. Gift aid(s) and loan(s) and work	1	.8		
<u>Fifth Year (1979-80)</u>				
1. Gift aid only	1	.8	2.04235	.9158
2. Loan only	2	1.5		
3. Work only	0	0		
4. Loan(s) and work	1	.8		
5. Gift aid(s) and work	1	.8		
6. Gift aid(s) and loan(s)	2	1.5		
7. Gift aid(s) and loan(s) and work	1	.8		
<u>Sixth Year (1980-81)</u>				
1. Gift aid only	1	.8	2.04235	.9158
2. Loan only	2	1.5		
3. Work only	0	0		
4. Loan(s) and work	1	.8		
5. Gift aid(s) and work	1	.8		
6. Gift aid(s) and loan(s)	2	1.5		
7. Gift aid(s) and loan(s) and work	1	.8		

type(s) of aid awarded and the return rates for fall term for OCC transfer financial aid recipients at the beginning of: (a) the second year after transfer, (b) the third year after transfer, (c) the fourth year after transfer, (d) the fifth year after transfer, and (3) the sixth year after transfer.

The results of the chi-square test for Hypothesis 13 are displayed in Table 20. A significant difference was found in the second year fall term return rates. The return rates ranged from 85 percent representing the 17 subjects who received gift aid(s), loan(s) and work, to 30 percent representing the three subjects who received work only. Individual chi-square analysis indicated that the high return rates by students awarded loan(s) and work, gift aid(s), loan(s) and work, and gift aid(s) and loan(s), and loan(s) only and the low return rate of those awarded work only, influenced the significant differences found in the second year after transfer. No significant differences were found in the third, fourth, fifth, and sixth years. The null hypothesis was rejected ( $p < .05, .0199$ ) for the second year and not rejected for the third, fourth, fifth, and sixth years. It was concluded that the type of financial aid awarded influenced whether a financial aid recipient returned only at the beginning of fall term during the second year after transfer.

Table 20

Comparison of Fall Term Return Rates: OCC Transfer Financial Aid Recipients with Different Types of Financial Aid Awards  
1976-77 to 1980-81

Type of financial aid award	Number of students	Percent	Chi square value	p
<u>Second Year (1976-77)</u>				
1. Gift aid only	12	9.0	15.04013	.0199*
2. Loan only	24	18.0		
3. Work only	3	2.3		
4. Loan(s) and work	9	6.8		
5. Gift aid(s) and work	8	6.0		
6. Gift aid(s) and loan(s)	14	10.5		
7. Gift aid(s) and loan(s) and work	17	12.8		
<u>Third Year (1977-78)</u>				
1. Gift aid only	11	9.2	5.71386	.4560
2. Loan only	15	12.5		
3. Work only	4	3.3		
4. Loan(s) and work	8	6.7		
5. Gift aid(s) and work	4	3.3		
6. Gift aid(s) and loan(s)	10	8.3		
7. Gift aid(s) and loan(s) and work	12	10.0		
<u>Fourth Year (1978-79)</u>				
1. Gift aid only	8	8.4	9.46705	.1490
2. Loan only	6	6.3		
3. Work only	2	2.1		
4. Loan(s) and work	6	6.3		
5. Gift aid(s) and work	5	5.3		
6. Gift aid(s) and loan(s)	6	6.3		
7. Gift aid(s) and loan(s) and work	0	0		

Table 20 (continued)

Type of financial aid award	Number of students	Percent	Chi square value	p
<u>Fifth Year (1979-80)</u>				
1. Gift aid only	0	0	9.43760	.1504
2. Loan only	7	10.0		
3. Work only	1	1.4		
4. Loan(s) and work	1	1.4		
5. Gift aid(s) and work	1	1.4		
6. Gift aid(s) and loan(s)	1	1.4		
7. Gift aid(s) and loan(s) and work	0	0		
<u>Sixth Year (1980-81)</u>				
1. Gift aid only	1	1.7	3.12983	.7924
2. Loan only	1	1.7		
3. Work only	0	0		
4. Loan(s) and work	0	0		
5. Gift aid(s) and work	1	1.7		
6. Gift aid(s) and loan(s)	2	3.3		
7. Gift aid(s) and loan(s) and work	1	1.7		

\*Significant at the 0.05 level.

Hypothesis 14

There is no significant difference between the type(s) of financial aid awarded and the graduation rates for OCC transfer financial aid recipients by the end of: (a) the second year after transfer, (b) the third year after transfer, (c) the fourth year after transfer, (d) the fifth year after transfer, and (e) the sixth year after transfer.

The results of the chi-square tests for Hypothesis 14 are contained in Table 21 and Table 22. In the comparison of graduation rates between students with different types of financial aid awards, Table 21 shows the number and percentage of students who graduated during that year. Only those students who had not previously graduated were considered in the percentage for this test. Table 22 lists the cumulative number and percentage of subjects who had graduated by the end of that year. A significant difference was found in the cumulative graduation rates by the end of the third year of the study (1977-78). Individual chi-square tests were computed to ascertain which portions of the overall table contributed most to the total chi-square. The cumulative graduation rates ranged from 55.0 percent representing the 11 subjects who received gift aid(s), loan(s) and work to 8.3 percent representing those students who were awarded loan(s) and work. The results of chi-square subtests indicated that the high graduation rate for those who received gift aid(s), loan(s)

Table 21

Comparison of Graduation Rates: OCC Transfer Financial Aid Recipients with Different Types of Financial Aid Awards - Previous Non-graduates Who Graduated Each Year  
1976-77 to 1980-81

Type of financial aid award	Number of students	Percent	Chi square value	p
<u>Second Year (1976-77)</u>				
1. Gift aid only	3	2.3	4.65687	.5885
2. Loan only	5	3.8		
3. Work only	1	.8		
4. Laon(s) and work	0	0		
5. Gift aid(s) and work	1	.8		
6. Gift aid(s) and loan(s)	0	0		
7. Gift aid(s) and loan(s) and work	3	2.3		
<u>Third Year (1977-78)</u>				
1. Gift aid only	2	1.7	11.27685	.0802
2. Loan only	8	6.7		
3. Work only	1	.8		
4. Loan(s) and work	1	.8		
5. Gift aid(s) and work	2	1.7		
6. Gift aid(s) and loan(s)	3	2.5		
7. Gift aid(s) and loan(s) and work	8	6.7		
<u>Fourth Year (1978-79)</u>				
1. Gift aid only	7	7.4	4.56283	.6010
2. Loan only	3	3.2		
3. Work only	1	1.1		
4. Loan(s) and work	4	4.2		
5. Gift aid(s) and work	3	3.2		
6. Gift aid(s) and loan(s)	4	4.2		
7. Gift aid(s) and loan(s) and work	3	3.2		

Table 21 (continued)

Type of financial aid award	Number of students	Percent	Chi square value	p
<u>Fifth Year (1979-80)</u>				
1. Gift aid only	0	0	10.03333	.1233
2. Loan only	6	8.6		
3. Work only	1	1.4		
4. Loan(s) and work	2	2.9		
5. Gift aid(s) and work	1	1.4		
6. Gift aid(s) and loan(s)	0	0		
7. Gift aid(s) and loan(s) and work	0	0		
<u>Sixth Year (1980-81)</u>				
1. Gift aid only	0	0	5.32020	.5034
2. Loan only	1	1.7		
3. Work only	0	0		
4. Loan(s) and work	0	0		
5. Gift aid(s) and work	1	1.7		
6. Gift aid(s) and loan(s)	0	0		
7. Gift aid(s) and loan(s) and work	0	0		

Table 22

Comparison of Graduation Rates: OCC Transfer Financial Aid Recipients with Different Types of Financial Aid Awards - Cumulative Number of Subjects Who Graduated by the End of Each Year  
1976-77 to 1980-81

Type of financial aid award	Number of students	Percent	Chi square value	p
<u>Second Year (1976-77)</u>				
1. Gift aid only	3	2.3	4.65687	.5885
2. Loan only	5	3.8		
3. Work only	1	.8		
4. Loan(s) and work	0	0		
5. Gift aid(s) and work	1	.8		
6. Gift aid(s) and loan(s)	0	0		
7. Gift aid(s) and loan(s) and work	3	2.3		
<u>Third Year (1977-78)</u>				
1. Gift aid only	5	3.8	12.70254	.0480*
2. Loan only	13	9.8		
3. Work only	2	1.5		
4. Loan(s) and work	1	.8		
5. Gift aid(s) and work	3	2.3		
6. Gift aid(s) and loan(s)	3	2.3		
7. Gift aid(s) and loan(s) and work	11	8.3		
<u>Fourth Year (1978-79)</u>				
1. Gift aid only	12	9.0	6.87196	.4377
2. Loan only	16	12.0		
3. Work only	3	2.3		
4. Loan(s) and work	5	3.8		
5. Gift aid(s) and work	6	4.5		
6. Gift aid(s) and loan(s)	7	5.3		
7. Gift aid(s) and loan(s) and work	14	10.5		

Table 22 (continued)

Type of financial aid award	Number of students	Percent	Chi square value	p
<u>Fifth Year (1979-80)</u>				
1. Gift aid only	12	9.0	5.13584	.5265
2. Loan only	22	16.5		
3. Work only	4	3.0		
4. Loan(s) and work	7	5.3		
5. Gift aid(s) and work	7	5.3		
6. Gift aid(s) and loan(s)	7	5.3		
7. Gift aid(s) and loan(s) and work	14	10.5		
<u>Sixth Year (1980-81)</u>				
1. Gift aid only	12	9.0	5.89623	.4349
2. Loan only	23	17.3		
3. Work only	4	3.0		
4. Loan(s) and work	7	5.3		
5. Gift aid(s) and work	8	6.0		
6. Gift aid(s) and loan(s)	7	5.3		
7. Gift aid(s) and loan(s) and work	14	10.5		

\*Significant at the 0.05 level.

and work accounted for the major influence on the significant difference found in the cumulative test results by the end of the third year after transfer. No significant difference was found in the second, fourth, fifth, and sixth year of the study. The null hypothesis was rejected ( $p < .05, .0480$ ) for the third year and not rejected for the other years. The null hypothesis was not rejected for the number and percentage of students who graduated during each year based on Table 21. It was concluded that the type of aid awarded influenced the cumulative graduation rates of students only by the end of the third year after transfer.

#### Summary of Results

In the comparison between Oregon Community College (OCC) transfer financial aid recipients and Oregon Community College (OCC) transfer non-financial aid recipients three significant differences were found. OCC transfer financial aid recipients achieved a significantly higher mean academic year grade point average at the end of the fourth year after transfer ( $p < .05, .0118$ ). By the end of the second year after transfer, a significantly higher number of OCC transfer non-financial aid recipients were placed on academic probation ( $p < .05, .0337$ ). Fall term return rates for the third year after transfer were significantly higher for OCC transfer financial aid recipients ( $p < .05, .0137$ ). No other significant differences were found between the two groups.

Five significant differences were found between OCC transfer financial aid recipients with different types of financial

aid award packages. A significant difference was found in the second year mean academic year grade point average ( $p < .05$ , .0352); however the Scheffé test did not determine the difference among the groups. The second year mean academic year credit hours earned were found to differ significantly among different types of aided groups ( $p < .05$ , .0404), but the Scheffé test did not determine the difference among the groups.

In the significant difference found in the second year cumulative academic probation rates ( $p < .05$ , .0452), the 52.9 percent of those who received gift aid(s) and loan(s) placed on probation and the 41.7 percent representing those who received loan only combined with the 0 percent of those who received gift aid(s) and work placed on probation had the major influence on the chi-square results.

The high percentage of those receiving gift aid(s), loan(s) and work; gift aid(s) and loan(s); and loan(s) and work and loan(s) only combined with the low percentage who returned fall term of those receiving work only had the major impact on the chi-square results for the significant difference found in the second year fall term return rates ( $p < .05$ , .0199).

The third year graduation rates were found to be significantly different ( $p < .05$ , .0480). Fifty-five percent of those who received gift aid(s), loan(s) and work graduated by the end of the third year. This result combined with low percentages of graduation by those who received loan(s) and work; gift aid(s) only; work only; gift aid(s) and loan(s); and gift aid(s) and

work had the major influence on the chi-square results.

Due to the number of years included in the study and the types of groups studied, some of the fifth and sixth year groupings contained small numbers of subjects and therefore were not compared.

## Chapter 5

### SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

#### Summary

This research was initiated by an interest in community college transfer students who, lacking the financial means necessary to pursue an educational program leading to a baccalaureate degree, apply for and receive financial assistance from the major federal Title IV programs. Little is currently known relative to the effect of federal financial aid programs on persistence in college among community college transfer students.

The primary concern of the study was to determine whether the student financial aid programs administered through the Financial Aid Office at Oregon State University have achieved the goals of financial aid in higher education for Oregon community college (OCC) transfer students who receive financial aid. As Jensen (1983) suggests, "Equal educational opportunity will be achieved only when students who have entered the institution of choice are able to continue to the limits of their capabilities and motivations." This study focused on the academic persistence of OCC transfer financial aid recipients by comparing their mean academic year grade point average, mean academic year credit hours earned, withdrawal rates, academic probation rates, academic suspension rates, fall term return

rates, and graduation rates with OCC transfer students who did not apply for or receive student financial aid through the Oregon State University Financial Aid Office.

In the comparison between these two groups of students, pair-matching was used to control for the variables of sex, transfer grade point average, classification (grade level at transfer), and age. In this study, 266 freshman, sophomore, and junior undergraduate students formed the population considered. Data were collected from the Oregon State University Financial Aid Office, the Registrar's Office, the Center for Research on Student Life and Development, and the Student Loan Fiscal Office.

For the second part of the study, OCC transfer financial aid recipients were classified according to the types of financial aid packages received during the first year after transfer. Analysis were conducted to determine if any relationship existed between the type of financial aid package awarded and the mean academic year grade point average, the mean academic year credit hours earned, the withdrawal rates, the academic probation rates, the academic suspension rates, the fall term return rates, and the graduation rates.

A one-way analysis of variance test was used to determine significant differences for those hypotheses involving continuous variables. Chi-square analyses were employed to test for significant differences between groups involving binominal variables. The 0.05 level of confidence was used to indicate a statistically significant result.

Discussion

A significant difference between OCC transfer financial aid recipients and OCC transfer non-financial aid recipients was found at the end of the fourth year after transfer where OCC transfer financial aid recipients achieved a significantly higher mean academic year grade point average. Table 1 shows that financial aid recipients earned a 2.92 GPA compared to a 2.39 GPA for non-financial aid recipients. The significant difference could have been influenced by the fact that more financial aid recipients graduated during the fourth year of the study. Students may be more highly motivated in their final terms in college, taking more courses in their chosen major field and thus achieve higher grades. Prior to the fourth year, almost an equal number of subjects from both groups graduated each year. The non-significant results observed in five of the six years in the study parallel the reports of Zielke (1979) and Le May and McCreight (1982) who found in freshman studies that there was no significant differences between financial aid recipients and non-recipients with regard to academic achievement. Jensen (1983) noted that it might be assumed that receipt of financial aid could improve academic achievement since students have more time to study, have less concern regarding financial problems and may experience an increase in motivation from receipt of aid. He continues, however, to state that financial aid should be expected to have small impact on academic achievement since grades are the best predictors of subsequent grades.

There were no significant differences found between the two groups relative to mean academic year credit hours earned. Since students receiving financial aid are required to complete a minimum of twelve credit hours for each term during the academic year it could be expected that financial aid recipients would tend to have a higher average completion rate of credit hours earned. This did not occur to a significant degree in the study, although financial aid recipients did accumulate higher totals of academic year credit hours during four of the six years in the study.

No significant differences were found in withdrawal rates between financial aid recipients and non-financial aid recipients in any of the six years of the study. Both groups experienced their highest numbers of withdrawals during the first year of the study. Reviewing Table 4, it can be noted that over the course of the study 58 financial aid recipients and 57 non-financial aid recipients withdrew. In this study a student could withdraw and if he/she returned could persist to graduation. Eighteen financial aid recipients and nine non-financial aid recipients who withdrew during the study returned and graduated. Eleven financial aid recipients withdrew and returned to Oregon State University more than once during the study, while ten non-financial aid recipients withdrew and returned more than once during the same period. Three of these financial aid recipients and two of these non-financial aid recipients eventually persisted to graduation.

A significantly higher number of non-financial aid recipients were placed on academic probation during the second year

after transfer due to low grade point average. In reviewing Table 5, it shows that both groups had an equal number of students on academic probation during the first year of the study. The significant difference in the probation rate did not affect a significant difference in the mean academic year grade point average or in graduation rates during the second year. There were no other significant differences between the groups in any other year of the study relative to academic probation rates. Twenty-two financial aid recipients and 19 non-financial aid recipients who were placed on academic probation during the study persisted to graduation. Three non-financial aid recipients were placed on probation each academic year they attended Oregon State University and persisted to graduation.

Academic suspension rates were found to be non-significant in all six years of the study between financial aid recipients and non-financial aid recipients. As Table 7 illustrates, there were only seventeen students involved in the study who were suspended for academic reasons during the course of the study. This finding supports the results of Newlon and Gaither (1980) who noted in their study of community college junior transfers that academic suspension did not seem to be a major cause in student attrition. It is interesting to note, however, that no financial aid recipients and only one non-financial aid recipient who were placed on academic suspension persisted to graduation.

During the third year after transfer a significantly higher number of financial aid recipients returned fall term. There were

no other significant differences noted between the two groups during the third year. The significant difference found in the probation rates by the end of the second year after transfer may have had an effect on the third year fall term return rate. Non-financial aid recipients who had been placed on academic probation during the second year may have enrolled at other institutions during the fall term of the third year to improve their grade point averages prior to returning to Oregon State University.

There were no significant differences found in the comparison of the two groups relative to graduation rates in any of the six years of the study. A higher percentage of financial aid recipients graduated by the end of the study and more financial aid recipients were still enrolled at Oregon State University at the end of the six years. In a study covering the same six-year period 1975-1981, Le May (1981) observed an overall graduation rate of 55.4 percent for Oregon community college transfer students at Oregon State University. Le May's study included senior transfer students who could be expected to have a higher graduation rate and more junior transfer students. Due to the constraints of pair-matching in the present study a number of junior women were not included in the results. As Table 11 indicates, 56.4 percent of financial aid recipients graduated while 46.6 percent of the non-financial aid recipients earned the baccalaureate degree. These non-significant results supported the findings of Zielke (1979) and McCreight (1982) in studies of freshman populations. In a national study of community college transfer students,

Holmstrom and Bisconti (1974) found that in a four-year period, students had an overall baccalaureate completion rate of 40 percent. In the present study, 47.4 percent of the financial aid recipients and 41.4 percent of the non-financial aid recipients graduated by the end of the fourth year.

While noting the three significantly different findings in the first part of this study, it was concluded by the retention of the eight null hypotheses that the federal student aid programs administered through the Office of Financial Aid at Oregon State University are successful in accomplishing the goals of financial aid in higher education for Oregon community college transfer students who, appearing to lack the resources necessary to pursue a baccalaureate degree, apply for and receive student financial aid. Those students who received aid were as successful as students who did not receive aid. The egalitarian goals of the federal student financial aid programs which strive to enhance equality of educational opportunity seem to be achieved for the population studied.

Results of particular interest in the second part of this study were the non-significant findings noted in the first year after transfer. OCC transfer financial aid recipients were awarded seven different types of financial aid packages in the first year after transfer and analyses were conducted to determine if any relationship existed between the type of financial aid awarded and the mean academic year grade point average, the mean academic year credit hours earned, the withdrawal rates, the academic probation rates, the academic suspension rates, the fall term return

rates, and the graduation rates. No one type or combination of financial aid was significantly more effective than another with regard to student persistence to graduation.

Astin (1975) suggested that institutions conduct research on the effects of different combinations of financial aid on student persistence. Peng and Fetters (1978) observed that information related to the effect of different financial aid programs could assist administrators in allocating financial aid to enhance the probability that students will complete their studies. Astin (1975) indicated in his research that modest support from numerous sources at the same time was generally associated with reduced chances of persistence, while support from a single source, with the exception of loans, was generally associated with increased chances of persistence. Astin found that work-study had the most consistent and positive impact on persistence. Jensen (1983) concluded from the limited research available in the literature that grants and scholarships are generally found to enhance persistence while loans generally have negative impacts on persistence. Peng and Fettters (1978) stated, on the other hand, that their results did not support the claim that scholarships and grants were related to college persistence to any greater degree than loans.

Five significant differences were found in the comparison of Oregon community college transfer financial aid recipients with different types of aid awarded in the first year of the study.

A significant difference was found in the second year mean academic year grade point average. While the Scheffé test

did not reveal where the significant difference occurred between the groups some interesting facts can be observed which could have influenced the significant results. Table 12 shows the eight subjects who received a combination of gift aid(s) and work achieved the highest mean grade point average of the groups during the second year of the study. None of these subjects was placed on probation or suspended and only one subject withdrew during the second year. In addition, all eight students were enrolled during the fall term of the second year. Each of these factors would tend to have a positive influence on the second year mean grade point average result. By contrast, the group achieving the lowest mean grade point average, those receiving gift aid(s) and loan, had four subjects placed on academic probation. In addition, one student was suspended and three students withdrew. These factors would tend to lower the mean grade point average of the group.

A significant difference was found in the second year mean academic year credit hours earned. The Scheffé test did not reveal where a significant difference occurred between the groups. The highest mean credit hours earned was achieved by students who were awarded loan(s) and work. None of the subjects in this category was suspended or withdrew during the second year of the study. Only one student was placed on probation and all nine subjects were enrolled during the fall term. By contrast, as Table 13 illustrates, those seven students awarded work only earned the lowest number of credit hours. This group had two students placed on probation and two students withdrew during the year. In

addition, only three subjects in the group enrolled during the fall term of the second year. Each of these factors would tend to reduce the mean credit hours earned during the second year after transfer.

By the end of the second year after transfer a significant difference was found in probation rates as shown in Table 17. To determine the cause of the significant difference, a number of chi-square sub-tests were completed which compared appropriate groups with different types of aid awarded. These sub-tests revealed that students who were awarded gift aid(s) and work had the most profound effect on the significant difference found. This group had no subjects on probation during the second year and as a group did not have a student placed on probation at any time during the six years of the study. In contrast, those students awarded gift aid(s) and loan had 52.9 percent on probation by the end of the second year. These findings disagree with Astin (1975) who concluded that gift aid(s) in combination with work was not an effective financial aid package with regard to persistence. The finding relative to gift aid(s) and loan, however, agrees with Astin who found that dependence on loans impairs the normally positive effect of gift aid.

The finding of a significant difference in fall term return rates during the second year as shown in Table 20 warrants further discussion due to the problem of first year attrition on the part of community college transfer students. Only 65 percent of the students who received federal financial aid during the

first year returned during the fall term of the second year of the study. Of particular interest was the fact that of the students awarded work only in the first year, 30 percent returned the following fall term. In contrast, 85 percent of those awarded gift aid(s), loan(s), and work returned fall term. These findings do not support the report of Astin (1975) relative to the beneficial aspects of work-study on persistence. Return rates were also favorable for those students awarded gift aid(s) and loan(s), loan(s) and work, loan(s) only and gift aid(s) and work. The significantly high percentage of students returning during the fall term of the second year who received gift aid(s), loan(s), and work appears to have positively affected the significantly high graduation rate during the third year of the study.

Students who were awarded gift aid(s), loan(s) and work in the first year demonstrated a significantly higher graduation rate by the end of the third year of the study. Fifty-five percent of these students had graduated by that year. In contrast, only eight percent of those students awarded loan(s) and work had graduated. This would seem to indicate a positive influence on the part of a package including a combination of gift aid(s), loan(s) and work in contrast to Astin (1975), who questioned the effectiveness of combinations of aid on student persistence.

In regard to the total graduation rate by type of aid received, there was no significant difference demonstrated which would tend to agree with the findings of Peng and Fetters (1978). Although the results were not significant, it is important to note

that the highest graduation rate was achieved by those students awarded gift aid(s), loan(s) and work. The group with the lowest graduation rate were those awarded work only in the first year. Relative to the discussion over the positive effects of gift aid(s) and the generally negative effects of loans it should be noted that in this study those awarded gift aid(s) only had a graduation rate of 48 percent, while those awarded loan(s) only had a 63.9 percent graduation rate.

Within the limitations of the study and noting only five instances of significant differences, it was concluded by retention of the eight null hypotheses that no one type of aid or combination of financial aids was significantly more effective than another in student persistence to graduation.

### Conclusions

In the comparison between OCC transfer financial aid recipients and OCC transfer non-financial aid recipients, the following conclusions were drawn:

1. OCC transfer financial aid recipients achieved a significantly higher mean academic year grade point average at the end of the fourth year after transfer. There were no significant differences between the two groups in the first, second, third, fifth, and sixth year after transfer relative to mean academic year grade point average.
2. A significantly lower percentage of OCC financial aid recipients were placed on academic probation by the end of the second year

after transfer. There were no significant differences between the two groups in the first, third, fourth, fifth, and sixth year after transfer relative to academic probation.

3. OCC transfer financial aid recipients had significantly higher fall term return rate for the third year after transfer. There were no significant differences in the first, second, fourth, fifth, and sixth year after transfer relative to fall term return rates.
4. There were no significant differences in the mean academic year credit hours earned, withdrawal rates, suspension rates, and graduation rates between OCC transfer financial aid recipients and OCC transfer non-financial aid recipients.

In the comparison between OCC transfer financial aid recipients with different types of financial aid packages, the following conclusions were drawn:

5. No significant differences were found by the end of the first year after transfer relative to different types of financial aid awarded.
6. Significant differences were found in the mean academic year grade point average in the second year after transfer, and in the mean academic year credit hours earned during the second year after transfer. Significant differences were found in the second year after transfer probation rates and fall term return rates. Third year after transfer graduation rates

were also found to be significant. No other significant differences were found relative to different types of financial aid awarded.

#### Recommendations for Further Research

The research and findings of this investigation suggest a number of recommendations of further research regarding community college transfer students:

1. Research is needed to determine why some community college transfer students who may have financial need do not apply for federal financial aid during the first year after transfer, but do apply for aid in subsequent years. Do they perceive federal financial aid as a type of welfare? Are they reluctant to seek counsel in filling out the required financial forms?
2. Research should be conducted relative to the reason community college transfer students who receive federal financial aid do not persist toward a college degree. Are the reasons financial, academic, personal, or employment-related?
3. Longitudinal studies should be conducted to determine the effects of federal financial aid programs on the persistence of various community college transfer groups. These groups include older students, single parent students, and married students.
4. With reduction of federal financial aid programs now in progress, longitudinal studies should begin to investigate the

effect of changing financial aid patterns on the persistence of community college transfer students. Will a smaller number of students be able to attend transfer institutions?

5. Information is needed to determine how community college transfer students who demonstrate high levels of financial need are able to continue their education when only a portion of their financial need is met through federal student aid programs.
6. This study should be replicated at other institutions which have community college transfer populations to determine if the results found at Oregon State University are similar elsewhere. Due to the small numbers of students suspended, future studies may consider combining suspension rates with probation rates for comparison purposes.

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## **APPENDICES**

## APPENDIX A

Results of Chi-square Subtests on Significant Results Found in the Comparison of OCC Transfer Financial Aid Recipients with Different Types of Aid Awarded

Comparison of Academic Probation Rates: Cumulative Number of Subjects Who Were Placed on Academic Probation by the End of the Second Year after Transfer - 1976-1977

	Gift	Loan	Work	Loan/ Work	Gift/ Work	Gift/ Loan	Gift/ Loan/ Work	Total
No	16 64.8%	21 58.3%	6 60.0%	9 75.0%	13 100%	8 47.1%	16 80.0%	89 66.9%
Yes	9 36.0%	15 41.7%	4 40.0%	3 25.0%	0 0%	9 52.9%	4 20.0%	44 33.1%
	25	36	10	12	13	17	20	133 (100%)

Type of Aid	$\chi^2$	p
1. Gift/Work vs. Gift/Loan	9.748	p < .01
2. Gift/Work vs. Loan	7.7663	p < .01
3. Gift/Loan/Work vs. Gift/Loan	4.3362	p < .05
4. Gift/Work vs. Gift/Loan/Work	3.0157	Not significant at .05
5. Gift/Work vs. Loan/Work	3.5990	Not significant at .05
6. Loan/Work vs. Gift/Loan	2.2245	Not significant at .05

Comparison of Fall Term Return Rates: Number of Subjects Who Returned Fall Term of the Second Year after Transfer - 1976-1977

	Gift	Loan	Work	Loan/ Work	Gift/ Work	Gift/ Loan	Gift/ Loan/ Work	Total
No	13	12	7	3	5	3	3	46
	52.0%	33.3%	70.0%	25.0%	38.5%	17.6%	15.0%	34.6%
Yes	12	24	3	9	8	14	17	87
	48.0%	66.7%	30.0%	75.0%	61.5%	82.4%	85.0%	65.4%
	25	36	10	12	13	17	20	133 (100%)

Type of Aid	$\chi^2$	p
1. Work vs. Gift/Loan/Work	8.9926	p < .01
2. Work vs. Gift/Loan	7.3173	p < .01
3. Work vs. Loan/Work	4.3728	p < .05
4. Work vs. Loan	4.3071	p < .05
5. Gift vs. Gift/Loan/Work	6.6026	p < .02
6. Gift vs. Gift/Loan	5.0291	p < .05
7. Gift vs. Loan/Work	2.3786	Not significant at .05

Comparison of Graduation Rates: Cumulative Number  
 of Subjects Who Graduated by the End of the  
 Third Year after Transfer - 1977-1978

	Gift	Loan	Work	Loan/ Work	Gift/ Work	Gift/ Loan	Gift/ Loan/ Work	Total
No	20	23	8	11	10	14	9	95
	80.0%	63.9%	80.0%	91.7%	76.9%	82.4%	45.0%	71.4%
Yes	5	13	2	1	3	3	11	38
	20.0%	36.1%	20.0%	8.3%	23.1%	17.6%	55.0%	28.6%
	25	36	10	12	13	17	20	133 (100%)

Type of Aid	$\chi^2$	p
1. Gift/Loan/Work vs. Loan/Work	6.9068	$p < .01$
2. Gift/Loan/Work vs. Gift/Loan	5.4081	$p < .05$
3. Gift/Loan/Work vs. Gift	5.9062	$p < .02$
4. Gift/Loan/Work vs. Loan	1.8594	Not significant at .05
5. Loan vs. Loan/Work	3.3333	Not significant at .05

## APPENDIX B

Number of Financial Aid Recipients with  
Type(s) of Financial Aid Awarded

<u>Type of Aid</u>	<u>Number of students</u>	<u>Number graduated</u>	<u>Percentage graduated</u>
1. Gift aid only	25	12	48.0
2. Loan only	36	23	63.9
3. Work only	10	4	40.0
4. Loan(s) and work	12	7	58.3
5. Gift aid(s) and work	13	8	61.5
6. Gift aid(s) and loan(s)	17	7	41.2
7. Gift aid(s) and loan(s) and work	<u>20</u>	<u>14</u>	<u>70.0</u>
Total	133	75	56.4