

AN ABSTRACT OF THE THESIS OF

Sharon Ann Hamby for the degree of Master of Science in  
Family Resource Management presented on April 21, 1986 .

Title: Using Institution-Specific Student Expenditure  
Data to Establish Undergraduate Student Budget  
Guidelines

Abstract approved: *Redacted for Privacy*  
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The purpose of this study was to analyze expenditure data collected from undergraduate students to determine the supportive costs of attending Oregon State University. Specific objectives were to determine (1) the total range of expenditures, (2) measures of central tendency in each budget category, and (3) relationships between the expenditures and college residence, sex, academic major, and academic class standing.

The sample included 349 students enrolled in Personal Finance classes conducted by the Family Resource Management Department during the 1980-1981 academic school year. Students included in this study were limited to unmarried sophomore, junior, and senior students enrolled in a full-time course of study. Eighty-eight percent of the sample were between the ages of 20 years and 23 years. Three-fourths of the sample were female. One-half of the participants were senior class members. Education and home economic majors each comprised one-third of

the sample. One-half of the participants resided in an apartment or house shared, and 47 percent resided in university-sponsored housing.

An expenditure diary was used to collect demographic and expenditure data from each participant. Demographic variables used in data analysis were sex, age, academic class standing, academic major, and college residence. A weekly diary with twenty-seven budget expenditures considered typical of college students was maintained by each participant during a consecutive two-month period at the beginning of each term studied. For final analyses, expenditures were grouped in the following five budget expense categories: living, educational, automobile, personal, and miscellaneous.

The One-way Analysis of Variance test was used to test for difference in average expenditures by college residence, sex, academic class standing, and academic major of each participant. Twenty-four hypotheses were used to test for significant differences in monthly mean subtotal and total expenditures by college residence, sex, academic class standing, and academic major. The level of significance was established at  $p \leq .05$ . Of the 24 associations, 9 were significant.

Significant relationships were found between (1) college residence and monthly mean living, educational, automobile, and total expenditures, (2) sex and monthly mean automobile and total expenditures, and (3) academic major and monthly mean automobile, personal, and total expenditures.

No significant relationships were found between (1) college residence and monthly mean personal or miscellaneous expenditures, (2)

sex and monthly mean living, educational, personal, or miscellaneous expenditures, (3) academic class standing and monthly mean living, educational, automobile, personal, miscellaneous, or total expenditures, and (4) academic major and monthly mean living, educational or miscellaneous expenditures.

The findings of this exploratory study should provide financial aid administrators data for the development of institution-specific budget guidelines and for need analysis to award financial aid; bridge the existing information gap needed for access, choice, and retention decisions faced by students, families, and professionals; and suggest variables and budget categories which significantly influence undergraduate expenditures.

USING INSTITUTION-SPECIFIC STUDENT EXPENDITURE DATA TO  
ESTABLISH UNDERGRADUATE STUDENT BUDGET GUIDELINES

by

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A THESIS

Submitted to  
Oregon State University

in partial fulfillment of  
the requirements for the  
degree of  
Master of Science

Completed April 21, 1986  
Commencement June 8, 1986

APPROVED:

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Date Thesis is presented

April 21, 1986

Typed for researcher by

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# USING INSTITUTION-SPECIFIC STUDENT EXPENDITURE DATA TO ESTABLISH UNDERGRADUATE STUDENT BUDGET GUIDELINES

## INTRODUCTION

Financial barriers are a major factor affecting student access, choice, and retention at postsecondary institutions of education (Chira, 1982; Hendricks & Gersmehl, 1981; Hills & Van Dusen, 1982; Manske & Wise, 1983; Van Dusen & Nelson, 1976).

After World War II postsecondary education in the United States experienced an unprecedented growth. The Gross National Product doubled between 1947 and 1977 insuring commensurate-with-education jobs for college graduates entering the labor force market (Bureau of Labor Statistics, 1979, p. 385). National policy encouraged the growth of a college-educated work force (Freeman, 1976; Rumberger, 1981), and economic analysis supported a high rate of return on investment in a college education (Becker, 1975).

By the mid-1970's, however, postsecondary education had begun a period of decline and retrenchment. This malaise was due largely to changing enrollment trends and the fiscal constraints imposed by successive years of spiraling inflation and economic recession.

In 1982-83 undergraduate students receiving financial aid met two-thirds of their college costs through self-help. This two-thirds was divided equally between two groups: loans and work study and students and families. Grants comprised the remaining one-third of resources to

meet college costs (Anderson, 1984). In a joint higher education association survey<sup>1</sup> among 1983-84 dependent student-aid recipients, total student self-help<sup>2</sup> contributed nearly three-fourths of the resources needed to pay for a higher education. Grants contributed 25 percent. Total student resources, in the form of student and parental contributions, student employment, and loans, contributed an overall 98 percent to cover college costs. According to the study, however, a deficit need of 2 percent remained (Evangelauf, 1984, p. 16).

In the 1980's a college education, on the average, became relatively more difficult for families and students to afford due to major changes in the relationship between costs of attendance, median family income, and aid per full-time equivalent student. Since 1980 real college costs at the nation's public colleges and universities increased 10.6 percent, while median family income decreased 5 percent and total aid per full-time equivalent decreased 21 percent (Gillespie & Carlson, 1983, pp. 18-9; 39).

It has been noted that mental-health problems caused by financial worries have increasingly been reported by students attending institutions of higher education. A study of stress and related

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<sup>1</sup>American Association of Community and Junior Colleges, American Association of State Colleges and Universities, National Association of State Colleges and Land Grant Colleges, and National Institute of Independent Colleges and Universities.

<sup>2</sup>Parental contribution, 25 percent; student employment, 6 percent; loans, 23 percent; student contributions, 16 percent; other aid, 4 percent.

problems among 16 colleges and universities in Massachusetts indicated that more than 40 percent of the students reported lack of money as a serious problem (Ingalls, 1982). A 1983 national Gallop survey of 98 campuses showed that for 60 percent of the full-time students interviewed, financial worries were one of the major causes of their mental-health problems ("The Stress Syndrome," 1983).

Recent researchers suggest that there is an information gap in student and family awareness and understanding of costs associated with attending a postsecondary institution. Van Dusen and Nelson (1976) concluded that families and students do not have a realistic conceptualization of the total costs of attending college.

Higher education cost information available to students, families, and professionals may not adequately reflect the real costs encountered by students attending a specific postsecondary institution (Case & Jacobsen, 1979). Systematic efforts by the nation, states, and postsecondary institutions in gathering student expenditure data and in subsequently developing accurate, reliable, and adequate budget guidelines to determine higher education costs have been limited and inadequate (Bowman, 1975; Clark, 1977).

#### Need for the Study

Costs for a four-year college education at the nation's public colleges and universities are rising faster than student and family ability to meet them. Students and their families report a lack of information which would enable them to identify and understand all of

the costs associated with attending college.

Little definitive data are available on the total costs of attending a particular postsecondary institution for any one academic year. Direct or fixed dollar amounts in the form of tuition, fees, and institutionally-provided housing are the easily recognized costs commonly associated with attending college. Such direct cost information has been readily available from institutions each year for comparative use. However, the supportive costs of attending a specific postsecondary institution (variable costs such as food, transportation, utilities, books and supplies, and entertainment) are neither easily recognized nor traced over longer periods of time (Gillespie & Carlson, 1983).

Furthermore, relatively little empirical research has been conducted at individual institutions to determine what students spend on budget items, whether or not the level of expenditures varies with select variables, or whether or not variations in expenditure levels can be explained. Knowing costs students incur and what factors are related to differences in levels of spending, student expense budgets could be developed to reflect more accurately the supportive costs of attending a specific institution during any one academic year. Even though certain expenditures may not be allowed under financial aid rules and regulations, if students spend money for these items, they are costs and must be anticipated and planned for in a student expense budget.

Actual student expenditure data from this research can also provide valuable insights for financial aid counselors in student expense budget

development and in the calculation of need and award of aid to students attending Oregon State University. Such expenditure data can also be made available to the citizens of Oregon so that estimates of costs and financial plans for college access, choice, and retention can be more accurate.

### Purpose of Study

The purpose of this study was to analyze expenditure data collected from undergraduate students to determine the supportive costs of attending Oregon State University. The problem was to identify the relationships between dollar amounts spent by full-time undergraduate students and selected student characteristics. Specifically, the objectives were to determine (1) the range of total expenditures; (2) measures of central tendency for expenditures in each budget category; and (3) relationships between the variance in expenditures and college residence, sex, academic major, and academic class standing. This type of data is needed in order to propose institution-specific budget guidelines for use by students, families, policymakers, and financial aid administrators.

Since the direct costs of tuition and fees are easily determined and did not vary within the student population studied, they were not included as expense items in this study. Detailed information was sought regarding the expenditure range, similarities, and trends of items in the budget, how income was apportioned for various categories, and how total and component expenditures varied with different

demographic and situational characteristics of the undergraduate student.

### Null Hypotheses

For full-time undergraduate students attending Oregon State University during any one academic term:

- H<sub>0</sub> 1 There is no significant difference in mean total expenditures by college residence;
- H<sub>0</sub> 2 There is no significant difference in mean living expenditures by college residence.
- H<sub>0</sub> 3 There is no significant difference in mean educational expenditures by college residence.
- H<sub>0</sub> 4 There is no significant difference in mean automobile expenditures by college residence.
- H<sub>0</sub> 5 There is no significant difference in mean personal expenditures by college residence.
- H<sub>0</sub> 6 There is no significant difference in mean miscellaneous expenditures by college residence.
- H<sub>0</sub> 7 There is no significant difference in mean total expenditures by sex.
- H<sub>0</sub> 8 There is no significant difference in mean living expenditures by sex.
- H<sub>0</sub> 9 There is no significant difference in mean educational expenditures by sex.
- H<sub>0</sub> 10 There is no significant difference in mean automobile expenditures by sex.
- H<sub>0</sub> 11 There is no significant difference in mean personal expenditures by sex.
- H<sub>0</sub> 12 There is no significant difference in mean miscellaneous expenditures by sex.
- H<sub>0</sub> 13 There is no significant difference in mean total expenditures by academic class standing.



- H<sub>0</sub>14 There is no significant difference in mean living expenditures by academic class standing.
- H<sub>0</sub>15 There is no significant difference in mean educational expenditures by academic class standing.
- H<sub>0</sub>16 There is no significant difference in mean automobile expenditures by academic class standing.
- H<sub>0</sub>17 There is no significant difference in mean personal expenditures by academic class standing.
- H<sub>0</sub>18 There is no significant difference in mean miscellaneous expenditures by academic class standing.
- H<sub>0</sub>19 There is no significant difference in mean total expenditures by academic major.
- H<sub>0</sub>20 There is no significant difference in mean living expenditures by academic major.
- H<sub>0</sub>21 There is no significant difference in mean reported educational expenditures by academic major.
- H<sub>0</sub>22 There is no significant difference in mean automobile expenditures by academic major.
- H<sub>0</sub>23 There is no significant difference in mean personal expenditures by academic major.
- H<sub>0</sub>24 There is no significant difference in mean reported miscellaneous expense by academic major.

#### Assumptions of the Study

This study was conducted under the premise of the following assumptions:

1. The expenditures of the student respondents in this study were representative of the expenditures of the undergraduate resident student population at Oregon State University.
2. The university students in the sample honestly and accurately reported and recorded their sources of income and expenditures for the

two-month period of the study.

3. The selected sources of income and budget expenses were representative of actual university student income and expenditures incurred by undergraduate students at Oregon State University.

4. There was a linear relationship between age and academic class standing among the student respondents in this study.

#### Limitations of the Study

1. Only undergraduate students at Oregon State University who were unmarried were included as subjects in this study.

2. Student subjects in the survey kept the two-month expenditure record as a requirement for a personal finance class project.

3. Neither freshmen nor graduate students were represented in this study.

4. Source of income reported by student respondents was not controlled for in this study.

#### Operational Definition of Terms

No common or standard vocabulary is universally used in the student expense budget and financial aid literature. Terms and definitions found in A Handbook for Use in the Preparation of Student Expense Budgets (Clark, 1977) (Appendix A) and Student Expenses at Postsecondary Institutions (Case & Jacobsen, 1979) (Appendix B) are the most widely used throughout national, state, and university literature and by financial aid professionals. A standardized budget terminology

has been developed and proposed by the National Association of Student Financial Aid Administrators (NASFAA) in a 1983 monograph (Case, 1983) (Appendix C). However, these terminology sets were not used on the instrument<sup>3</sup> to collect data for this study. In this study the following operational definitions were used:

Access - Policies guaranteeing student admission to, and ability to afford, at least one college or university (Breneman & Finn, 1978).

Allowable Expenses - For traditional students participating full-time in postsecondary education this includes all those expenses which are reasonable and related to attendance at a specific institution: the actual costs of tuition and fees, estimated costs of books and supplies, and allowances for transportation and personal/miscellaneous expenses (Bowman & Van Dusen, 1978).

Automobile Expenses - For purposes of this study, "automobile expenses" include car payments, gasoline, and car maintenance.

Choice - Policies guaranteeing a student admission to, and ability to afford, colleges and universities with a wide range of prices (Breneman et al., 1978).

Cost of Education - Total amount of direct and supportive costs for an undergraduate student to attend a particular postsecondary institution for a specified period of time, usually for one academic year.

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<sup>3</sup>See Appendix D for instrument used to collect income and expense data.

Direct Costs - Basic fixed or predictable costs of attending a particular postsecondary institution which include tuition and fees.

Educational Expenses - For purposes of this study, "educational expenses" include textbooks, supplies, and laboratory fees.

Full-Time Equivalent - The number of full-time students plus the number of part-time students converted to the equivalent number of full-time students (Gillespie & Carlson, 1983).

Full-Time Student - A student enrolled in twelve or more credit hours per term.

Individual Budget - A budget tailor-made to each student and his or her unique expenditure pattern (Bhella, 1979).

Living Expenses - For purposes of this study, "living expenses" include rent, room and board, food prepared at home, food eaten away from home, telephone, electricity, water, garbage, natural gas, and cable T.V.

Miscellaneous Expenses - For purposes of this study, "miscellaneous expenses include insurance, medical and dental insurance, furniture, subscriptions, fees, and pet care.

Personal Expenses - For purposes of this study, "personal expenses" include personal care, laundry and dry cleaning, clothing, gifts, contributions, dues, recreation, charge accounts.

Primary Data - Actual expense information reported by students through projected expense estimates, expense surveys, or expenditure diaries (Clark, 1977).

Public Institution - State supported and administered college or university.

Real Costs - Dollar amounts or changes in dollar amounts adjusted for inflation.

Retention - Rate at which enrolled students complete a predetermined course of study computed on the basis of academic years or persistence to completion of degree requirements (Herndon, 1982).

Secondary Data - Extrapolated data supplied through means other than that from a primary source (projected expense estimates, expense surveys, or expenditure diaries), for example, Consumer Expenditure Survey or the Bureau of Labor Statistics.

Standard Budget - A budget which assigns expenses to a category of students which apply to all students in that category without any consideration for individual differences (Bhella, 1979).

Supportive Costs - Basic, variable or unanticipated costs of attending a particular postsecondary institution for which the institution does not bill the student, for example, books and supplies, clothing, personal care, transportation, food, and entertainment.

## REVIEW OF LITERATURE

The literature review is organized in the following manner: (1) the purpose, development, and construction of student expense budgets, (2) review of recent student expenditure research, (3) extent of data collection, and (4) factors which influence the level of expenditures.

### Purpose, Development and Construction of Student Expense Budgets

The determination of student budgets primarily has been used in calculating student financial needs and in awarding student financial aid. Until recently there has been little thought given to systematic ways of developing student budgets or institutional policies concerning student expense budgets (Case, 1983).

Much has been written on need analysis since 1954 when the College Scholarship Service (CSS) developed a national standard for determination of family contribution and the awarding of financial aid. Efforts to improve this delivery system culminated in the 1975 national need system, developed and administered jointly by the American College Testing Service (ACT) and the College Scholarship Service (CSS). The Uniform Methodology of Need Analysis, as the system was called, is a widely-used, objective, systematic method of establishing eligibility and determining parental contribution to the costs of education (College Scholarship Service, 1982).

According to Case and Jacobsen (1979) two major factors that institutions consider in making a fair assessment of the financial needs of students are (1) how much a family can afford to contribute toward the costs of education and (2) the allowable expenses associated with attendance at a specific postsecondary institution. Furthermore, Case (1983) notes that

a legitimate measure of financial need can be obtained only if a budget appropriate to the individual student is used in need analysis. Thus, properly constructed budgets help ensure equity in aid decisions by allowing the aid administrator to differentiate among students according to their various degrees of need (p. 1).

Until recently little attention has been given to the construction of student expense budgets by national, state, or institutional financial aid administrators. Clark (1977) identified a recognized lack of a common body of knowledge from which to construct realistic student budgets. Bowman (1975) noted the lack of standardized processes and systematic cost determinations in estimating and monitoring student expense budgets. Disagreement by the financial aid community on three basic issues has confounded efforts to construct realistic student budget guidelines. Those issues are: (1) definitions of allowable direct and indirect education expenses in student expense budgets (Clark, 1977; Jackson & Pogue, 1983), (2) which of the student populations at a specific institution should be studied (Jackson & Pogue, 1983), and (3) what level of living should be accepted as the appropriate standard in determining which expenses are to be considered allowable (Bowman & Van Dusen, 1978).

The National Student Expense Budget Conference sponsored by the

National Association of Student Financial Aid Administrators (NASFAA) and the Midwest Association of Student Financial Aid Administrators (MASFAA) was held in 1977. The meeting was the first time that official recognition was given to the need for realistic, adequate, and contemporary student budget information. Conference participants discussed and attempted to ". . . clarify the philosophical issues of expense budgets rather than the budget construction details of parameters and other specific construction processes" (Clark, 1977, p. iii) and to propose ". . . clear guidelines delineating the processes whereby satisfactory budget item limits may be established" (Clark, 1977, p. xii). Proceedings from the historic conference were published in A Handbook for Use in the Preparation of Student Expense Budgets (Clark, 1977).

NASFAA's concern for the development of specific budget parameters and the needed revision of the 1977 conference findings led to the appointment of a Student Expense Budget Task Force in 1982. The task force sought to

set forth some general principles for budget construction, examine the various kinds of principles for budget construction, examine the various kinds of expenses that make up students' budgets, and suggest some methodological approaches to determination and substantiation of standard student budgets (Case, 1983, p. v).

Members of the 1982 Student Expense Task Force proposed that student expense budgets be constructed for the purpose of ". . . reflecting a student's reasonable costs of attending an institution for a given period of time" (Case, 1983, p. 1). Such reasonable costs should include the allowable basic educational and living expenses of a student (Appendix E).



Furthermore, the following major guidelines necessary in developing student expense budgets were identified by the task force:

Standard Budgets - Budgets should be developed which include typical student expenses with allowances for separate budgets for other student subpopulations. Individual budget construction should consider academic level, degree program, residency, age, marital status, dependency status, and family size.

Comprehensiveness - Budgets should include basic educational expenses as well as living expenses.

Reasonableness - Budgets should reflect a modest but adequate level of living which is the same for both financial and non-financial aid recipients.

Adjustment for Individual Need - Budgets should be adjustable for individual expenses necessitated in unusual cases not covered by a standard budget.

Time Period - Budgets should provide reasonable costs for a defined period of time.

Documentation - Budgets should be verified through research or national/regional data.

Localization - Budgets should recognize regional or local market variations in prices which may affect standard reasonable allowances (Case, 1983, pp. 1-2).

Bowman (1975) stated that attempts to estimate, monitor, and standardize student budgets should strive to achieve definition and assessment of allowable needs; provision of several reliable cost indicators for verification purposes; estimates based on actual cost surveys; and adoption of convenient, efficient, and accurate methods (Appendix F). Additionally, Bowman suggested that both actual costs of allowable items and actual expenditures by students need to be included if adequate and viable student expense budgets were to be established.

Data to construct student expense budgets may be obtained from institutional or non-institutional sources. Primary data, or student-

reported information, according to the 1982 National Association of Student Financial Aid Administrator's Student Task Force, ". . . provides the only means of determining the specific kinds and amounts of expenses that students at the institution actually encounter" (Case, 1983, p. 24).

Primary budget data may take the form of (a) projected expense estimates, (b) current or retroactive expense surveys, or (c) expenditure diaries. Expense estimates, due to student lack of experience in accurately projecting future costs, are not recommended as an adequate method for budget construction. Student expense surveys can be costly in dollar and staff costs, as well as suffer inaccuracies in student recall and estimates of past expenses (Clark, 1977). As a method of student budget construction, expenditure diaries provide current and accurate data sensitive to individual variations in postsecondary expenses whether the items are or are not allowable in student budgets. Case (1983) indicated that any student expense budget research should include at least one of these primary data collection methods. Bowman (1975) recommends expenditure diaries as an accurate method to verify the adequacy of financial aid budgets at specific institutions.

Student expense budget data generated from secondary sources within the institution (e.g., published information, expertise of faculty and administrators) or generated outside an institution (e.g., need analysis agencies, Bureau of Labor Statistics) is of limited application and should be used carefully in constructing student expense budgets (Clark,

1977). Such secondary data provide normative data on basic budget components but are insensitive to the actual expenses of a specific institution's students (Case, 1983).

### Review of Recent Student Expenditure Research

A literature review conducted through a library search enabled the researcher to conclude that although there is documented, empirical research on both budget construction and student expenditure surveys, available research is inconsistent in extent of data collected, methodology, sample, variables, and results and is inadequate for purposes of this study.

Most available data on the costs of a college education for use by students, their families, policymakers, and financial aid administrators are based on non-institutional generated data such as national averages, secondary sources, or government indices (Bowman, 1975; Case & Jacobsen, 1978; Corwin & McIver, 1981). Furthermore, institutionally provided approximate cost data that is used by the nation's two needs analysis agencies<sup>4</sup> is frequently " . . . based on estimates which are generated by colleges on a widely varying basis, ranging from rough estimates to systematic and sophisticated data gathering and analysis procedures" (Maxey, Fenske, & Boyd, 1979, p. 24).

The nationally used Student Expenses at Postsecondary Institutions (Case & Jacobson, 1979), published by the College Examination Board,

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<sup>4</sup>The American College Testing Service (ACT) and the College Scholarship Service (CSS).

analyzes four budget types--dependent resident student living on- and off-campus, dependent commuting student, and self-supporting student--at five types of postsecondary institutions.<sup>5</sup> Nationwide student expense data from 2,930 reporting postsecondary institutions are analyzed to compute an average total budget for each budget type at each institution. Average costs for tuition/fees, books/supplies, room/board, personal, and transportation are also generated using the cost estimates provided by the reporting institutions. The averaged total budgets and budget categories do not represent actual individual student costs at a specific institution. Excluded from the budget analysis are budgets for the non-traditional student, such as older than average, married, handicapped, or single with dependent.

The widely known and used Bureau of Labor Statistics' family budget data are inappropriate measures of dollar amounts for student expense budgets. The Bureau of Labor Statistics' family budgets are not necessarily reflective of student living situations and consumption patterns, nor do the regional budgets necessarily reflect the costs students incur as captive consumers in specific campus communities (Clark, 1977).

Reliance on national averages, secondary sources, or standard budgets<sup>6</sup> does not allow for the wide variety of postsecondary institutions, differing geographic locations, and market variance within

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<sup>5</sup> Public two-year, private two-year, public four-year, private four-year, and proprietary.

<sup>6</sup> See page 11 for definition.

a specific institutional community (Bowman, 1975) or the diversity of student populations with a variety of individual needs (Bhella, 1979). Corwin and McIver (1981) believe that utilization of secondary data has resulted in some financial aid administrators who are unresponsive to the needs of the students they serve.

National and institutional direct cost data, reported in actual dollar amounts for tuition, fees, room and board, are available through a number of sources (Case & Jacobsen, 1979; National Center for Education Statistics, 1979; Ryan, 1981; Viehland & Kaufman, 1982). Such direct fixed cost data may be traced over long periods of time for comparative analysis. However, there is a paucity of data on costs and estimates for supportive costs, that is, those variable costs of attending a postsecondary institution. Unlike information about actual direct costs of attendance, there are no reliable data that trace supportive costs over time (Gillespie & Carlson, 1983).

### Extent of Data Collection

#### National

The College Board annually collects student expense data from nearly 3,000 postsecondary institutions in the United States (Case & Jacobsen, 1979). Analysis of the institutionally-provided information produces nationwide averaged budget category and total budget expenses for resident, commuter, and self-supporting students attending different types of institutions. Expense budgets for typical students are composed of five principal parts: tuition/fees, books/supplies, room/

board, personal expenses, and transportation. College Board data, though often used by financial aid professionals and students for higher education planning and guidance, have limited relevancy to this research. First, only 59 percent of all eligible institutions submitted data for final survey analyses. Second, budget category and total budget expense results are nationwide-averaged data, which masks any one individual institution's costs. Finally, the methods used for collection and analysis of student expense estimates varied with the individual institution.

At the national level Dean, Bradshaw, and Litkowski (1977) have analyzed and collated expense data from four national collection surveys<sup>7</sup> in order to identify approximate national student expenditures for housing, food, transportation, medical, and miscellaneous budget categories. Though Dean et al. integrated the data to develop five budget estimates for three categories of off-campus single students, the researchers noted that ". . . extreme caution should be exercised in using these estimates for decision-making or analysis purposes . . ." (p. 40). The researchers concluded that few common or comparable findings among the four data sets could be found to produce approximate averages for student expense estimates.

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<sup>7</sup> The surveys were two 1968-69 College Scholarship Service studies, the 1972 National Longitudinal Study, and the 1973 Bureau of Census Survey.

## State

Student expenditure surveys have been initiated in two different states: Illinois and California. Research from both studies was state- and student-specific. In 1977 the Illinois State Scholarship Commission surveyed a statewide sample of 2,000 students who had received monetary awards from the State Scholarship Commission (Maxey et al., 1979). Survey results showed that median expenses for budget categories varied among students by family income level, dependency category, level of loans received, commuter (off-campus living) or resident (on-campus living) status, and type of college attended.

Recognizing that there was a lack of financial data on students, the California State Commission, the College Board, and the combined postsecondary institutions in California undertook a joint 1980 inter-institutional comparative survey to obtain expense and income information on aid/non-aid and full/part-time enrolled students (Hills & Van Dusen, 1982). A questionnaire was administered to 80,000 college students enrolled in all classifications of postsecondary education institutions in California--community, state universities and colleges, University of California, independent colleges and universities, and proprietary/trade schools. With a response rate of 36.3 percent (n = 28,853), survey results indicated that educational and living expenses for full-time postsecondary students in California varied significantly by the category of institution attended and full/part-time status. The researchers recommended cautious interpretation of the research data for comparison purposes. The data's value lies in inter-institutional

comparison of educational costs for the same living/family arrangement.

### Institution-Specific

Bhella (1979) conducted a survey of 406 financial aid recipients at Iowa State University to determine estimated college expenses in ten areas outlined by the American College Testing Program. Six categories of students determined by residential status, marital status, and dependency status were used in the analysis. Bhella's survey included only financial aid recipients who had attended the University at least one academic year; therefore, results could not be generalized to freshmen, transfer, or non-aided students. Future research, according to Bhella, should include not only non-aided students but collection of primary data from all students.

In 1979 Barks examined data collected from 616 freshmen and junior students at the University of Pennsylvania. Barks' study indicates that the level and category of student expenditures were significantly influenced by five variables: living arrangement, sex, academic class, aid/non-aid status, and marital status.

Hendricks and Gersmehl (1981) surveyed 406 randomly-selected University of Minnesota students to gather information on expenses and sources of income for single, undergraduate students living off-campus. The survey repeated a 1974-75 study (Hendricks & Skinner, 1975) conducted at the same institution. The researchers compared responses from both studies to determine the effects of double-digit inflation and increased financial aid on student-reported expenses and income.



Between 1975 and 1981 student-estimated total higher education expenses increased by 59 percent. Student loans rose by 193 percent; grants/scholarships, 100 percent; and work study, 123 percent. Mean total expenditures between categories from the 1981 study showed significant differences by living arrangement, age, academic class, and aid/non-aid status. Hendricks and Gersmehl noted that statistical comparison of the two studies was limited by raw data unavailable from the 1974-75 study. The 1981 study results may only be generalized to students living off-campus, thereby providing only limited comparison with other studies.

Recognizing the limited information available on student budgets, Jackson and Pogue (1983) collected student-estimated expense data at a public Midwestern university to determine the actual costs students incurred. Twenty students from each undergraduate class were included in the survey that investigated the demographic specifics of academic class standing and sex as related to the costs of higher education. Survey results indicated significant differences between student-estimated higher education costs among academic classes and between male and female undergraduate students. Despite the limited scope of the study, the researchers recommended acknowledging differentiation in need assistance by sex and academic class standing as well as establishing an annual revision for student budgets to increase the accuracy in cost estimation from year to year.

A 1981 study by Corwin and McIver examined the estimated non-direct

student expenses<sup>8</sup> at Virginia Polytechnic Institute and State University. The reported objective of the study was to utilize data from 476 off-campus single, undergraduate (excluding freshmen) and graduate households to assess the adequacy of the financial aid office's standard budget with student-reported, non-direct expenses. Additionally, Corwin and McIver collected data on the use of secondary sources as a reliable standard in student budget construction. Results indicated that the standard expense budget underestimated student-reported, non-direct expenses by 16 percent. Significant differences between survey-obtained expenses and expense figures derived from secondary sources were found. Freshmen students and students living in institutional housing were excluded from the study; therefore, the results may only be generalized to a limited student population at Virginia Polytechnic Institute and State University. The researchers recommended additional research, especially on non-traditional student households, if financial aid officers are to be more receptive to student needs.

Using local community cost data and the national Consumer Expenditure Survey Moore (1982) determined budget needs for single, financially independent and dependent undergraduate and graduate students living on- and off-campus at the University of Missouri-

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<sup>8</sup>Non-direct student expenses were defined as ". . . those costs for which the university does not bill the student (rent, clothing, transportation, etc.)" (p. 7).

Columbia. Moore then developed an eleven-category academic year budget<sup>9</sup> for each student group and compared each budget with budgets used by the University to assess student financial aid. Results of Moore's study indicated that the total academic year budget for the single student living on-campus was 25-29 percent lower than for the single student living off-campus. Adequacy of the University of Missouri-Columbia budgets, as compared with Moore's cost-generated budgets, varied with student financial dependency status and academic class standing. Moore integrated community and secondary cost data rather than student expenses to generate budgets for the University of Missouri-Columbia students. Study results reflect non-specific normative expenditure data, not actual student expenses at a specific postsecondary institution.

### Factors Which Influence the Level of Expenditures

#### College Residence

Where the postsecondary student chooses to reside during an academic school year may significantly affect the costs incurred and, thus, his or her total education budget. A national study by Dean et al. (1977)<sup>10</sup> concluded that the single, dependent student not living

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<sup>9</sup> Budget categories included housing, utilities, transportation, food, household supplies, book/supplies, personal items, recreation, clothing, medical, and internships.

<sup>10</sup> See page 20 for description of the study.

with parents incurred a total expense budget twice that of the single, dependent student living with parents. Dean and his associates did not include figures for tuition and fees in their study.

Examination of nationwide averaged room and board expenses provided by the College Board (Case & Jacobsen, 1979)<sup>11</sup> showed that students living with parents/relatives tended to spend less on living costs than either students living in own home/apartment or on-campus because of low or no-charge housing costs. However, as Case and Jacobsen noted, a family/relative who provides no-charge housing still must buy food and provide other living expenses for the student.

Maxey et al. (1979)<sup>12</sup> found median total expenses to be 30 percent lower for students living with parents than for either those students living in their own home/apartment or for those students living on-campus. Of those students reporting their expenses, those living on-campus incurred the highest median expenditure for room and board (\$1350), while students living in their own home/apartment reported the lowest room and board expense (\$1281). Students in the study who lived with parents reported no median board and room expenditure. Room and board, according to Maxey et al. was the only budget category to increase linearly with parental income. Medical, dental, and transportation expenses were highest among students living off-campus. Students living in their own home/apartment reported the lowest expenses

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<sup>11</sup>See page 19 for description of the study.

<sup>12</sup>See page 21 for description of the study.

for entertainment but the highest expenses for personal needs compared with those students living with parents or on-campus. The amount of money spent on books and supplies by all on- and off-campus housed students was approximately the same.

An extensive study by Hills and Van Dusen (1982)<sup>13</sup> among California's postsecondary institutions found a mean total education budget, excluding tuition and fees, highest for single, off-campus students and lowest for single at-home students. Students living at home reported 9 percent lower total expenses than did students living in on-campus provided housing and 24 percent lower total expenses than students living in off-campus housing. Significant differences in mean expenses were found for housing, food, transportation, and personal costs by living arrangement. Single off-campus students reported the highest mean costs for housing and food, while the single living-with-parent student reported the lowest housing and food costs. Mean personal/miscellaneous expenses were lowest for the single on-campus student and highest for the single off-campus student.

Among those students living at home with parents/relatives, Hendricks and Gersmehl (1981)<sup>14</sup> reported that the total expenses incurred were 60 percent less than for those students not living with parents/relatives.

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<sup>13</sup>See page 21 for description of the study.

<sup>14</sup>See page 22 for description of the study.

In Bhella's (1979) survey<sup>15</sup> of financial aid recipients, the total mean education budget for single, dependent, resident students living off-campus was 5 percent higher than that for the single, dependent, resident student living on-campus. Within budget categories, resident students living off-campus spent significantly more for room and board and only slightly more for clothing, medical expenses, and transportation than did the resident student living on-campus. No significant difference in mean values for personal expenses or books and supplies was found between resident students living on- or off-campus. Based on total mean budget values, the single, dependent, non-resident student living off-campus spent 11 percent more than did the single, dependent, non-resident student living on campus. Significantly more was spent on room and board by the single, dependent, non-resident, off-campus student than by the on-campus student counterpart. Both non-resident groups spent comparable mean totals in books, clothing, personal, and transportation budget components.

Barks' (1979) expense and income survey<sup>16</sup> at the University of Pennsylvania found that a student's choice of living arrangement significantly affected reported mean expenses in food, transportation, personal, recreation, and club budget categories. Total mean expenditures for housing among freshmen and junior students were highest for apartment living, followed by dormitory, room in a private home,

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<sup>15</sup>See page 22 for description of the study.

<sup>16</sup>See page 22 for description of the study.

fraternity/sorority, and living at home with relatives. However, students residing in fraternity/sorority housing significantly outspent other student living arrangements in food and personal/recreation categories. The difference was attributed both to the food plan subscription requirement and high snack/restaurant expenditures, as well as high recreation and club membership expectations for fraternity/sorority dwellers.

Undergraduate students living at home reported the highest mean costs (\$704) for transportation, while the second highest costs were reported by fraternity/sorority dwellers (\$459). Students living with parents, in fraternity/sorority, and in their own apartments incurred nearly the same mean costs for recreation. However, apartment dwellers outspent other living arrangement choices in the personal budget category, and fraternity/sorority dwellers spent significantly more (\$242) than any other living arrangement (\$18 - \$20) for club costs.

In Moore's (1982) cost-generated student expense budgets,<sup>17</sup> significant differences were found in total living expenses between students who chose to live on- or off-campus. The total budget for the single undergraduate students who lived off-campus was 25-29 percent higher than for the same student living on-campus. Moore, however, did not divide the living off-campus student group into those students who lived in own home/apartment or those who lived with parents/relatives.

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<sup>17</sup> See page 24 for description of the study.

### Sex/Academic Class Standing

Jackson and Pogue (1983)<sup>18</sup> found significant differences between reported mean educational costs for females and males by academic class standing and sex. Freshmen, sophomore, and junior male students spent \$150-\$200 more per semester than did their female counterparts on transportation. Females, the researchers concluded, were less likely to have on-campus automobiles and, thus, incurred lower automobile-related costs than did male classmates. Freshmen and sophomore males also spent significantly more (\$150-\$190) per semester than freshmen and sophomores females for room and board. The difference in room and board was attributed to the amount of groceries purchased each week. Sophomore and senior females spent significantly more (\$230-\$250) for clothing than did sophomore and senior males. Senior females also spent \$230 more for room and board than did their male classmates. In all other expense categories, no sex or academic class standing differences were found.

Barks' 1979 study<sup>19</sup> of freshmen and junior students at the University of Pennsylvania found that academic class standing significantly affected the total food, personal, recreation, club, and clothing expenditures. Junior students outspent freshmen on mean personal (19 percent), recreation (23 percent), clothing (22 percent), and club (91 percent) expenses during an academic year. Freshmen spent

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<sup>18</sup>See page 23 for description of the study.

<sup>19</sup>See page 22 for description of the study.



a mean of 19 percent more on food costs than did the upperclassmen. The higher expense for food was primarily due to food subscription plans as part of the freshmen living arrangement.

Female students, according to Barks' survey results, reported higher book/supplies (9 percent), personal (42 percent), and clothing (80 percent) costs than male classmates. However, males outspent females on total transportation (41 percent) and food (13 percent), recreation (37 percent), and club (425 percent) costs. The higher total transportation expenses reported by males were attributed to costs associated with owning and operating an automobile. Total food costs for males were higher due to increased participation in food plans and larger restaurant expenses.

In a 1981 survey of single, undergraduate students living off-campus at the University of Minnesota,<sup>20</sup> Hendricks and Gersmehl reported that successive class levels had progressively higher expenses but that there were no real differences in reported expenses by sex.

#### Age

Hendricks and Gersmehl's 1981 study<sup>20</sup> at the University of Minnesota among undergraduate students showed a significant difference in student expenses by age. Older students<sup>21</sup> reported a mean total expenditure of \$1,166 more per academic year than did younger students.

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<sup>20</sup>See page 22 for description of the study.

<sup>21</sup>Chronological age data was not included in the published study.

Similarly, Hills and Van Dusen's California inter-institutional research (1982)<sup>22</sup> showed substantially higher costs for housing, food, and personal expenses reported by students over the age of 30 than those reported by students under the age of 30 years. However, these two categories were not controlled for marital status or family size in the study.

#### Source of Income (Financial Aid/Non-Financial Aid Recipients)

Recent student expense research suggests that differences exist in the expenditure patterns between students awarded financial aid and students who do not receive such aid. According to Hendricks and Gersmehl (1981)<sup>23</sup> mean total expenditures per academic year at the University of Minnesota for aid recipients were 22 percent higher than for non-aid recipients. Hendricks and Gersmehl reported that this difference reflected an inability of aided students to draw on family resources to assist them in meeting the costs of attending college.

Barks' 1979 study<sup>24</sup> of 616 freshmen and junior students at the University of Pennsylvania indicated that non-aided students spent more per academic year on recreation (13 percent), vacations (26 percent), and clothing (35 percent) than did their aided counterparts. Exclusive

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<sup>22</sup> See page 21 for description of the study.

<sup>23</sup> See page 22 for description of the study.

<sup>24</sup> See page 22 for description of the study.

of tuition, Barks' analysis showed that the total budget mean of aided students for the academic year was 8 percent (\$292) less than that for non-aided students. This difference was primarily due to the non-aided students' reported higher expenditures in the personal-recreational category previously listed. According to Barks, differences in the personal-recreational expenditures were significant because of the discretionary nature of the category. In other words, students can manipulate such expenditures more than those fixed costs for tuition/fees or books/supplies.

In 1982 Hills and Van Dusen<sup>25</sup> found that actual reported student total budget means for all state of California aid applicants (whether they were awarded aid or not) were lower than non-applicant student budgets. The total budget mean as reported by students, excluding tuition, for all aid applicants was approximately \$800 less than the mean total budget for non-aid applicants (\$5106-\$5934). The aid-recipient total budget mean, excluding tuition, was approximately \$700 less than that of the non-aid recipient total budget mean (\$5121-\$5810). According to Hills and Van Dusen, these data do not indicate that application for or receipt of financial aid causes students to live at a higher level of living than otherwise might be expected. This supports the purported findings of Bowman (1976) who found that non-aid recipients spent more than aided students for entertainment, clothing, and miscellaneous items. Since these budget components comprise the

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<sup>25</sup>See page 21 for description of the study.

major portion of students' lifestyle, Bowman suggests that aid recipients appear to live at a more modest level of living than their non-aided counterparts. These conclusions were reported by Bowman (1976), and the primary source could not be located. Hills and Van Dusen caution that the data in their research does not account for differences in living arrangement, age, or other variables which affect the expenses of different student populations studied.

### Adequacy

Few empirical studies have been conducted to assess the specific institutional adequacy of financial budget standards, whether nationally or institutionally developed.

Corwin and McIver (1981)<sup>26</sup> concluded that the non-direct costs<sup>27</sup> incurred while attending a specific postsecondary institution were different from those same costs obtained through national averages of institutional standards. When compared to financial aid office standards, undergraduate non-direct budget items underestimated student mean reported costs in every budget category except miscellaneous<sup>28</sup> costs. Not only did Corwin & McIver's data demonstrate a wide range in student-reported expenses for each budget category, but variables such as academic major and age, which could significantly affect expenditures

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<sup>26</sup> See pages 23-24 for a description of the study.

<sup>27</sup> See page 24 for a definition of the term.

<sup>28</sup> Corwin and McIver classified clothing, recreation, and medical expenses in the miscellaneous category.

in the underestimated budget categories were not considered in this study.

Bhella's 1979 survey<sup>29</sup> among financial aid recipients at Iowa State University showed that the financial aid office's budget equaled or exceeded student expense estimates except in the room and board category. For the single, dependent living off-campus, the university budget standard was 10 percent lower than the median expense reported by students. Median room and board expenses for the single, dependent, non-resident living off-campus were 33 percent higher than the university budget allocation. No significant difference existed between the budget standard and median room and board expenses reported by either the resident or non-resident single, dependent student living on-campus. The high cost of off-campus housing in Ames supports the importance of student budgets based on local cost and expenditure data.

Moore's 1982 research<sup>30</sup> at the University of Missouri-Columbia found differences between the student budgets generated from local and federal cost data and those budgets used by the university to award student financial aid. For the single, dependent student living off-campus, the total university budget standard was \$585 less than the total cost analysis budget developed by Moore. However, for the single, dependent student living on-campus, Moore found only a \$27 difference between the budget standard and the cost-data-generated budget. Similar

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<sup>29</sup>See page 22 for description of the study.

<sup>30</sup>See pages 24-25 for description of the study.

budget differences were found for the independent undergraduate and graduate student populations. Budgets developed by Moore were based partially on secondary cost data rather than actual expenditures by students themselves; therefore, study result may not reflect the true educational expenses for students attending the University of Missouri-Columbia.

In a 1979 study at the University of Pennsylvania, Barks<sup>31</sup> found that an average total budget for an academic school year, as calculated by the financial aid office standards, underestimated the mean expenditure of freshmen and junior students receiving financial aid who participated in the study. Aided freshmen students reported an average 6 percent (\$421) higher total expenditures, and aided junior students reported an average 5 percent (\$355) higher total expenditures than the financial aid office standard budget.

#### Summary

In summary, six conclusions are presented: First, lack of a common body of knowledge, standardized processes, and systematic cost determinations have hindered the construction of institution-specific, reliable, accurate undergraduate expense budgets.

Second, researchers suggest the expenditure diary method as a preferred means of collecting valid and reliable student expense data. Such institution-specific data allow for geographical, local market,

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<sup>31</sup> See page 22 for a description of the study.

student, and institutional differences. The use of national averages or secondary sources, according to researchers, are inappropriate methods to assess the costs of education.

Third, although direct educational cost data are readily available, supportive cost data are limited and not comparable over time.

Fourth, a search of literature indicates that few current student expenditure studies have been conducted. Available empirical research is inconsistent in extent of data collection, methodology, sample, variables studied, and results.

Fifth, current studies show college residence, sex, academic class, age, and academic major as significant variables in determining the level of expenditures reported by undergraduate students.

Sixth, researchers suggest that the financial aid standard budget can underestimate the total costs of education, especially the non-direct costs.

## METHODOLOGY

This study was exploratory in nature. The data base used for this study includes information from undergraduate student expenditure diaries. Students reported actual expenditures incurred while attending Oregon State University, a public postsecondary institution of education. This chapter reports descriptive information regarding the sample, the instrument, the administration of the instrument, and the data analysis.

### Sample

The sampling unit in this study consisted of all students registered in the personal finance classes conducted by the Family Resource Management Department at Oregon State University during the 1980-1981 academic year. A total of 418 students was enrolled in the course during the year. A total of 349 or 83.5 percent of the responses was identified as usable for the purposes of analysis. Sixty-nine (16.5 percent) student diaries were eliminated from the study. Diaries were classified unuseable if students indicated (1) enrollment of less than 12 quarter hours, (2) married status, (3) having dependents, or (4) freshman, graduate or postbaccalaureate academic class standing. Fifty-two (14.9 percent) reported being classified as sophomores, 120 (34.3 percent) as juniors, and 177 (50.7 percent) as seniors. Two-hundred seventy-one (77.7 percent) of the respondents were female, and 77 (22.1



percent) were male.

### Instrument

The instrument (Appendix D) in this study was developed from a review of standard budget information previously used in expense diary class assignments, and student input. The instrument included demographic and financial data collection sections. Demographic data requested from each respondent included academic class standing, academic major, age, marital status, sex, source(s) of income, urban/rural permanent residence, and number of credits carried. A consecutive two-month expense and income record by actual expense/income per week and weekly/monthly expense/income totals comprised the expenditure diary portion of the survey instrument. Expenses considered typical of student expenditures were requested for rent/mortgage payment, board or food prepared at home, food away from home, clothing, laundry-dry cleaning, personal care, utilities (phone, electricity, water, garbage, natural gas, cable TV), tuition, books, supplies, lab fees, subscriptions, car payment, automobile insurance, gasoline, upkeep on automobile, license on automobile, fraternity/sorority dues, professional organizations, union dues, other dues, bank charge cards, other charge cards, installment loan payments, life insurance, health insurance, other insurance, child care, pet care, medical/dental, recreation/entertainment, furniture/appliances, contributions, gifts, postage/stationery, bank charges, savings/investments, and other expenses.

### Administration of Instrument

The expenditure diary record used in this study was a term project and was required from each student for completion of the class. Survey instruments were distributed to students at the beginning of the term with a set of completion instructions (Appendix D). Instructions for keeping the expense diary were given orally in class. Each participant kept a weekly financial record of expenses and income for a consecutive two-month period at the beginning of each term. At the end of the term, the completed expenditure diary (identified only by student social security number) was returned to the instructor. After evaluation of the assignment was made, each survey instrument was edited for social security number. Diary and demographic information was coded, keypunched, and verified at the Oregon State University Computer Center.

### Data Analysis

#### Descriptive Statistics

In this study the descriptive statistics used to describe and summarize the demographic characteristics of the sample, dependent variables, and independent variables were the mean, range, median, and frequency.

#### Analysis of Variance

Analysis of variance was used to determine how mean expenditure levels varied with the demographic and situational characteristics of

undergraduate students. Analysis of variance determines whether there are significant differences between group means, as well as mean differences among measures within groups (Schuessler, 1971, p. 136). Major assumptions underlying usage of this statistical procedure are that: (1) ". . . the distribution of the dependent variable in the population from which the samples are drawn is normal . . ." and (2) ". . . the variances in the population from which the samples are drawn are equal" (Ferguson, 1971, p. 219).

The resultant statistic of analysis of variance is the F statistic. The F statistic establishes whether or not a relationship between independent and dependent variables exists by determining the ratio of the variance between groups to the variance within groups. It measures statistical significance but not necessarily causal relationship (Schuessler, 1971, p. 137). Level of significance for this study is .05, which indicates that there is a five percent chance that differences between observed and expected frequencies are the result of sampling error.

If the ANOVA test resulted in a significant difference, the Scheffe multiple comparison method was used as a follow-up statistic to determine the source of the difference. The Scheffe method was selected because it imposes the most rigorous multiple comparison method to minimize Type 1 errors and is easily used with unequal sample numbers and the F statistic (Ferguson, 1971, p. 308).

## FINDINGS

This section includes: (1) a description of the sample data, (2) descriptive data on reported expenditures, and (3) results of testing the null hypotheses.

### Description of Sample Data

Sample data examined in this study included the following: age, sex, academic class standing, academic major, and college residence.

#### Age

Age range for participants in this study was 19 through 48 years of age. Mean age for the 349 study participants was 21.8. Of the 349 participants, the majority of student ages were represented by 109 (31.2 percent) 21 year-olds and 104 (29.9 percent) 22 year-olds.

Comparison of age distribution with academic class standing in Table 1 indicates that for purposes of this study age is representative of academic class standing. Since there is no reason to expect age and class standing to be different, the age variable was not included in further data analysis.

#### Sex

Of the 349 participants in the study, 77 (22.1 percent) were male and 271 (77.7 percent) were female (Table 1).

TABLE 1  
 DESCRIPTION OF SAMPLE DATA VARIABLES  
 (n=349)

Characteristics	Number	Percent of Sample
<u>Age</u>		
19	5	1.4
20	53	15.1
21	109	31.2
22	104	29.9
23	43	12.3
24	13	3.7
25	4	1.1
26	6	1.7
27-48	11	3.2
<u>Sex</u>		
Male	77	22.1
Female	271	77.7
<u>Academic Class Standing</u>		
Sophomore	52	14.9
Junior	120	34.3
Senior	177	50.7
<u>Academic Major</u>		
Home Economics	109	31.2
Education	117	33.5
Professional	65	18.6
General	55	15.8
<u>College Residence</u>		
Dormitory or Cooperative	81	23.2
Apartment or House Shared	160	46.8
Apartment or House Alone	25	7.2
Fraternity	13	3.7
Sorority	70	20.1

### Academic Class Standing

Survey participants represented three undergraduate class standings: 52 (14.9 percent) sophomores, 120 (34.3 percent) juniors, and 177 (50.7 percent) seniors. Freshmen, postbaccalaureate, and graduate students were not included in the survey (Table 1).

### Academic Major

At the time of this study, there were 143 academic major possibilities in 15 colleges available at Oregon State University. Participants in the study represented 50 (35.0 percent) separate academic majors in 11 (73.3 percent) colleges. For analysis purposes, academic majors were collapsed into the following four categories: home economics, education, general, and professional. There were 109 (31.2 percent) home economics majors, 117 (33.5 percent) education majors, 65 (18.6 percent) professional majors, and 55 (15.8 percent) general majors (Table 1).

### College Residence

Participants in the study selected a college residence from the following options listed on the survey instrument: dormitory, apartment shared, apartment alone, house with others, sorority, fraternity, cooperative, parent home, duplex, own home, and other. For analysis purposes, college residence selections were grouped by similarity of living arrangements into five categories. The five categories were: dormitory or cooperative (23.2 percent), apartment or house shared (46.8

percent), apartment or house alone (7.2 percent), sorority (20.1 percent), and fraternity (3.7 percent) (Table 1). Sample sizes for students reporting living in other types of residences were too small to produce meaningful results and logically could not be combined for analysis with other residence groupings.

### Descriptive Data on Reported Expenditures

Twenty-seven budget components were used to determine supportive costs incurred by full-time undergraduate students attending Oregon State University during any one academic term. Since direct costs of tuition and fees for full-time undergraduate students at Oregon State University were known, this expense information was not analyzed for purposes of this research.

Expenditure data were collected from each participant for two consecutive months during each term of the study. After calculating mean subtotal and total expenditure levels per month, related expenditures were grouped into five budget categories. Those categories were: living expenses, educational expenses, automobile expenses, personal expenses, and miscellaneous expenses (Table 2). Appendix G shows the twenty-seven monthly mean budget components before grouping into five budget categories for analysis purposes. Finally, month one and month two expenditures were averaged to budget subtotal categories and budget total expenditure data for discussion and analysis in this study. Table 3 shows these month one and month two mean figures.

TABLE 2

## EXPENDITURE COMPONENTS COMPRISING BUDGET CATEGORIES

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Living Expenses	Educational Expenses
Rent	Textbooks
Room and Board	Laboratory and Supplies
Food Prepared at Home	
Food Eaten Away	Automobile Expenses
Telephone	Car Payments
Electricity	Gasoline
Other Utilities	Car Maintenance
Water	Miscellaneous Expenses
Garbage	Insurance
Natural Gas	Medical/Dental
Cable TV	Furniture
Personal Expenses	Subscriptions
Personal Care	Pet Care
Gifts/Contributions	Fees
Cleaning/Clothes	
Dues	
Recreations	
Charge Accounts	

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Living Expenses

Living expenses included the following budget components: rent, room and board, food prepared at home, food eaten away from home, telephone, electricity, water, garbage, natural gas, and cable TV. Of the 349 students in the study, 348 reported living expenditures. Fifty-three percent of the budget was spent in this budget category (Table 3). The monthly group mean for living expenses was \$195.75. Monthly mean



TABLE 3

BUDGET CATEGORIES FOR MONTH 1 AND MONTH 2 MEAN DOLLAR EXPENSES

Expense Category	MONTH 1						MONTH 2						MONTH 1 + MONTH 2					
	N	Minimum	Maximum	Mean	Median	% Budget	N	Minimum	Maximum	Mean	Median	% Budget	N	Minimum	Maximum	Mean	Median	% Budget
Living	348	5.00	629.00	207.45	200.17	52	348	1.00	560.00	184.04	192.00	54	348	3.50	545.00	195.75	196.75	53
Educational	315	1.00	397.00	41.41	32.35	10	243	1.00	104.00	14.95	8.88	4	326	.50	204.50	25.58	21.75	7
Automobile	242	1.00	926.00	36.32	18.17	8	247	1.00	438.00	37.17	18.00	10	275	1.00	478.00	32.67	16.06	9
Personal	349	3.00	609.00	89.63	66.20	22	349	4.00	451.00	81.68	61.25	24	349	5.50	388.00	85.65	68.00	23
Miscellaneous	314	1.00	733.00	35.79	11.86	8	310	1.00	925.00	32.76	10.64	9	333	.50	469.50	32.13	13.20	8
Mean Total	349	60.00	1561.00	391.26	349.00	100	349	29.00	1284.00	331.00	306.00	100	349	49.50	1131.50	361.13	337.13	100

living expenditures ranged from \$3.50 to \$545.00 (Table 4).

Of particular importance are the following observations:

1. Male students spent \$6.86 (3.5 percent) more per month than did female students. Males reported spending \$201.97 per month compared to \$194.24 spent by females.

2. Sophomore (\$192.16), junior (\$195.46), and senior (\$197.01) students reported approximately the same mean monthly living expenditures.

3. Professional (\$201.39), education (\$198.22), and home economic (\$197.83) majors reported approximately the same mean expenditures per month for living expenses. General majors (\$182.26) reported nearly 11 percent lower mean living expenses than professional majors, who reported the highest mean living expense.

4. The apartment or house alone residence category was the most costly form of housing (\$257.68), followed by fraternity (\$213.27) and apartment or house shared category (\$198.05). Dormitory was the least costly housing pattern (\$169.67). Apartment or house alone residents outspent dormitory residents by \$88.01 (51.9 percent) per month.

### Educational Expenses

Mean educational expenses accounted for 7 percent of the total monthly budget (Table 10). As defined, this budget category included textbooks, laboratory fees, and supplies. A total of 326 students (93.4 percent) reported a monthly average of \$25.58 for educational expenses.

TABLE 4

## SUMMARY OF DISTRIBUTION STATISTICS FOR REPORTED LIVING EXPENDITURES

Variable	n	Mean	SD	Range
<u>Sex</u>				
Male	77	\$ 201.97	87.30	\$ 8.50 - 390.50
Female	271	194.24	81.28	3.50 - 545.00
<u>Class Standing</u>				
Sophomore	52	192.16	82.14	3.50 - 545.00
Junior	119	195.46	83.19	9.00 - 409.00
Senior	177	197.01	82.72	8.50 - 444.50
<u>Academic Major</u>				
Home Economics	108	197.83	87.46	3.50 - 545.00
Education	117	198.22	89.30	9.50 - 404.50
Professional	65	201.39	78.02	8.50 - 374.00
General	55	182.26	62.53	13.50 - 333.50
<u>College Residence</u>				
Dorm. or Cooperative	81	169.67	107.53	3.50 - 409.00
Apt. or House Shared	160	198.05	63.16	24.00 - 545.00
Apt. or House Alone	25	257.68	102.71	34.50 - 425.50
Sorority	69	195.32	73.05	13.50 - 333.50
Fraternity	13	213.27	53.67	92.50 - 315.50

The range of mean educational expenditures reported was \$ .50 to \$204.50 (Table 5).

The following observations are reported:

1. Males spent \$5.19 (21.2 percent) more per month than did females for educational expenses. Males reported a mean monthly expenditure of \$29.68 compared to \$24.49 reported by females.

2. Junior students reported the highest monthly educational expenses (\$28.18). These junior-reported expenditures were \$6.18 (28.2 percent) more per month than sophomore and \$3.36 (13.5 percent) more than senior students' educational expenses.

3. Educational majors outspent all other academic majors for educational expenses (\$27.98). Home economic (\$24.70), professional (\$24.29) and general (\$24.09) majors reported below group mean educational expenses but approximately the same monthly dollar amount.

4. Fraternity students' education expenses (\$34.17) were the highest reported among the other residence patterns, followed by dormitory or cooperative (\$29.67) and sorority (\$28.79). Students living in apartment or house shared (\$21.83) and apartment or house alone (\$21.98) reported the lowest monthly educational expenditures.

#### Automobile Expense

The automobile expense budget category was composed of car payments, gasoline, and car maintenance. This expenditure category represented 9 percent of the total mean budget (Table 10). Two-hundred seventy-five students (78.8 percent) reported monthly expenditures

TABLE 5

## SUMMARY OF DISTRIBUTION STATISTICS FOR REPORTED EDUCATIONAL EXPENSES

Variable	n	Mean	SD	Range
<u>Sex</u>				
Male	68	\$ 29.68	29.79	\$ .50 - 204.50
Female	258	24.49	18.61	.50 - 128.00
<u>Class Standing</u>				
Sophomore	47	21.99	14.78	.50 - 52.00
Junior	113	28.18	26.59	.50 - 204.50
Senior	166	24.82	18.95	.50 - 123.50
<u>Academic Major</u>				
Home Economics	106	24.70	16.69	.50 - 76.00
Education	108	27.98	28.17	1.00 - 204.50
Professional	61	24.29	16.35	.50 - 64.50
General	49	24.09	19.71	.50 - 72.50
<u>College Residence</u>				
Dorm. or Cooperative	79	29.67	31.25	.50 - 204.50
Apt. or House Shared	149	21.83	16.71	.50 - 72.50
Apt. or House Alone	21	21.98	16.12	1.50 - 57.50
Sorority	65	28.79	17.50	2.50 - 76.00
Fraternity	12	34.17	14.56	10.50 - 64.50

related to an automobile. The monthly group mean was \$32.67. Monthly reported mean automobile expenditures ranged from \$1.00 to \$478.00 (Table 6).

The following observations were made:

1. Males reported more than twice the monthly automobile expenditures (\$56.25) than did female students (\$25.08).
2. Senior students (\$38.55) outspent junior students (\$23.97) for automobile expenditures by \$14.58 per month and sophomore students (\$30.53) by \$8.02 per month.
3. Professional majors reported the highest automobile expenditures among other academic major categories. The monthly mean expenditure for professional majors was \$46.81, while home economic majors reported \$26.23 per month and education majors reported \$36.79 per month. General majors reported the lowest automobile expenses (\$21.76) per month.
4. Fraternity students incurred the highest monthly automobile expenses (\$72.80), while sorority students reported the lowest monthly expenditure (\$13.51). Students living in apartment or house alone reported the second highest automobile expenses (\$58.12), followed by apartment or house shared (\$35.91) and dormitory or cooperative (\$25.29).

### Personal Expenses

Personal budget components were defined as personal care, cleaning, clothes, gifts, contributions, dues, recreation, and charge accounts.

TABLE 6

## SUMMARY OF DISTRIBUTION STATISTICS FOR REPORTED AUTOMOBILE EXPENSES

Variable	n	Mean	SD	Range
<u>Sex</u>				
Male	67	\$ 56.25	75.25	\$ 2.50 - 478.00
Female	208	25.08	35.14	1.00 - 289.00
<u>Class Standing</u>				
Sophomore	38	30.53	51.68	1.50 - 289.00
Junior	90	23.97	31.29	1.00 - 172.50
Senior	147	38.55	57.37	1.00 - 478.00
<u>Academic Major</u>				
Home Economics	82	26.23	40.56	1.00 - 289.00
Education	87	36.79	63.11	1.00 - 478.00
Professional	54	46.81	52.36	1.50 - 255.00
General	49	21.76	26.85	1.50 - 136.00
<u>College Residence</u>				
Dorm. or Cooperative	57	25.29	34.65	1.00 - 136.00
Apt. or House Shared	137	35.91	44.51	1.00 - 289.00
Apt. or House Alone	21	58.12	103.61	2.50 - 478.00
Sorority	50	13.51	14.78	1.00 - 74.50
Fraternity	10	72.80	84.30	10.50 - 255.00

All 349 students in the sample reported monthly expenditures in this budget category. The monthly group mean for personal expenditures was \$85.65 per month. Twenty-three percent of the budget was spent in this budget category (Table 10). Monthly mean expenditures reported by students ranged from \$5.50 to \$388.00 (Table 7).

Of particular importance are the following observations:

1. Male respondents outspent female respondents by \$7.76 (9.2 percent) per month. Males spent \$91.70, while females spent \$83.94 per month on personal expenditures.

2. The highest monthly personal expenditures were reported by senior students (\$92.06), followed by sophomore (\$81.35) and junior students (\$78.08).

3. Professional students reported the highest monthly personal expenditures (\$108.35) when compared with other academic majors. Home economic (\$82.00), education (\$80.28) and general (\$79.46) majors spent approximately the same mean total on personal expenditures per month.

4. Sorority residents (\$101.24) outspent other residents for personal expenses. However, fraternity students (\$97.54) reported spending only \$3.70 per month less than sorority students. Fraternity was followed by apartment or house shared (\$85.33) residents and dormitory or cooperative (\$76.17) residents. Lowest personal expenditures were reported by students living alone in apartment or house (\$68.60).



TABLE 7

## SUMMARY OF DISTRIBUTION STATISTICS FOR REPORTED PERSONAL EXPENSES

Variable	n	Mean	SD	Range
<u>Sex</u>				
Male	77	\$ 91.70	72.73	\$ 9.00 - 388.00
Female	272	83.94	60.85	5.50 - 370.00
<u>Class Standing</u>				
Sophomore	52	81.35	61.52	9.00 - 370.00
Junior	120	78.08	54.09	5.50 - 241.00
Senior	177	92.06	69.61	9.00 - 385.00
<u>Academic Major</u>				
Home Economics	109	82.00	53.02	6.50 - 243.00
Education	117	80.28	68.17	9.00 - 388.00
Professional	65	108.35	77.10	10.00 - 346.00
General	55	79.46	50.69	5.50 - 241.00
<u>College Residence</u>				
Dorm. or Cooperative	81	76.17	70.55	9.00 - 370.00
Apt. or House Shared	160	85.33	66.53	5.50 - 388.00
Apt. or House Alone	25	68.60	39.33	12.50 - 159.00
Sorority	70	101.24	52.78	9.50 - 243.00
Fraternity	13	97.54	60.95	22.00 - 202.00

### Miscellaneous Expenses

Ninety-four percent (n=333) of students in the sample reported miscellaneous expenditures during the time of the study. Insurance, medical and dental expenses, furniture, subscriptions, pet care, and fees were included in the miscellaneous budget category. The monthly group mean was \$32.13. The miscellaneous budget category accounted for 8 percent of the total monthly budget (Table 10). The range of mean miscellaneous expenditures was from \$ .50 to \$469.50 (Table 8).

The following observations were made:

1. Male students reported monthly miscellaneous expenditures of \$37.06, while females (\$30.76) reported \$6.30 (20.5 percent) less per month.
2. Senior students (\$34.38) outspent junior students (\$31.47) by \$2.91 per month and sophomore students (\$26.11) by \$8.27 per month.
3. Professional majors spent a monthly average of \$43.47 for miscellaneous expenditures, while general majors reported the lowest expenditures (\$28.28). Home economic majors spent \$34.56, and education majors spent \$25.53 per month.
4. Apartment or house shared reported the highest monthly miscellaneous expenditures (\$35.55), while fraternity reported the lowest (\$13.95). Dormitory or cooperative residents spent \$30.89 per month, apartment or house alone spent \$29.67 per month, and sorority spent \$29.09 per month.

TABLE 8

## SUMMARY OF DISTRIBUTION STATISTICS FOR REPORTED MISCELLANEOUS EXPENSES

Variable	n	Mean	SD	Range
<u>Sex</u>				
Male	72	\$ 37.06	81.56	\$ .50 - 469.50
Female	261	30.76	47.19	.50 - 321.50
<u>Class Standing</u>				
Sophomore	51	26.11	55.43	.50 - 366.50
Junior	113	31.47	50.42	1.00 - 321.50
Senior	169	34.38	60.37	.50 - 469.50
<u>Academic Major</u>				
Home Economics	107	34.56	53.25	.50 - 321.50
Education	109	25.53	46.31	.50 - 366.50
Professional	63	43.47	83.29	.50 - 469.50
General	52	28.28	38.41	1.00 - 185.50
<u>College Residence</u>				
Dorm. or Cooperative	79	30.89	62.13	.50 - 366.50
Apt. or House Shared	156	35.55	57.07	.50 - 469.50
Apt. or House Alone	23	29.67	50.68	1.50 - 252.00
Sorority	65	29.09	53.10	.50 - 321.50
Fraternity	10	13.95	22.45	1.50 - 74.00

## Total Expenses

As defined, total expenses were composed of the following five budget categories: living expenses, educational expenses, automobile expenses, personal expenses, and miscellaneous expenses. The monthly group mean for total expenses was \$361.13. The range of mean total reported expenditures was \$49.50 to \$1,131.50 per month (Table 9).

The following observations were made:

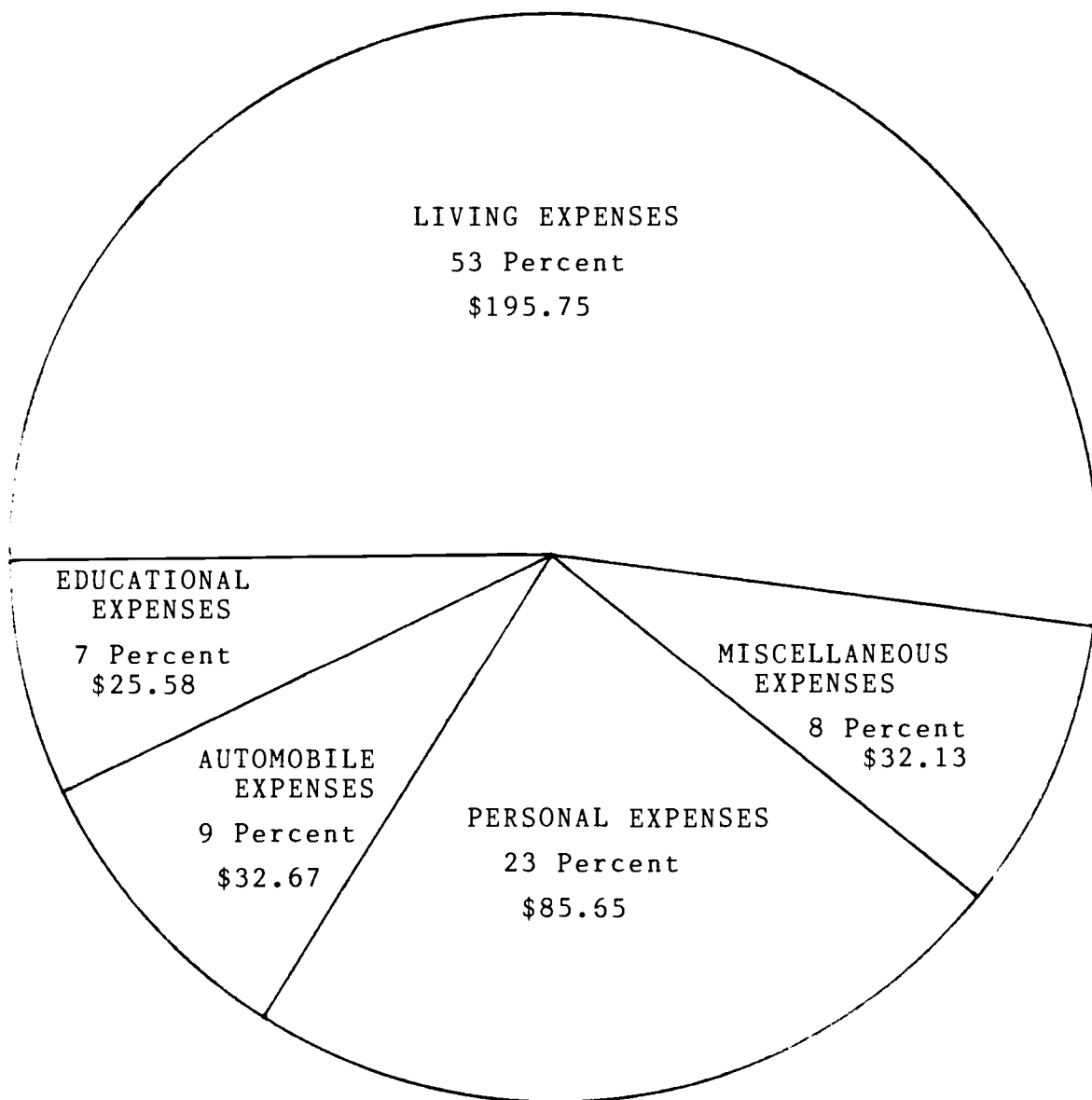
1. Male students reported \$53.21 (15 percent) more total monthly mean expenditures than did female students. Males spent an average of \$402.60 per month compared to the \$349.39 spent by females.
2. Senior students (\$377.18) outspent junior students (\$346.05) by \$31.13 per month and sophomore students (\$341.30) by \$35.88 per month. Sophomore and junior students spent approximately the same each month for total expenses.
3. Professional majors (\$413.55) reported 25 percent higher mean monthly total expenditures than general majors (\$329.30), who reported the lowest mean expenses. Home economic majors (\$355.70) and education majors (\$355.47) reported similar monthly total expenses.
4. Apartment or house alone residents (\$420.86) reported the highest monthly mean total living expenses, followed by fraternity (\$409.08), apartment or house shared (\$369.11), and sorority (\$351.14). Students living in dormitory or cooperative reported the lowest total monthly expenses (\$322.70). Dormitory or cooperative students spent 30 percent less per month on total expenses than the highest reporting group, apartment or house alone.

TABLE 9

## SUMMARY OF DISTRIBUTION STATISTICS FOR REPORTED TOTAL EXPENSES

Variable	n	Mean	SD	Range
<u>Sex</u>				
Male	77	\$ 402.60	203.83	\$ 112.50 - 1131.50
Female	272	349.39	145.42	49.50 - 962.00
<u>Class Standing</u>				
Sophomore	52	341.30	138.50	49.50 - 962.00
Junior	120	346.05	144.21	93.50 - 707.50
Senior	177	377.18	176.96	76.00 - 1131.50
<u>Academic Major</u>				
Home Economics	109	355.70	148.63	49.50 - 962.00
Education	117	355.47	168.79	76.00 - 1092.00
Professional	65	413.55	190.18	113.00 - 1131.50
General	55	329.30	117.99	107.00 - 657.50
<u>College Residence</u>				
Dorm. or Cooperative	81	322.70	193.00	49.50 - 1131.50
Apt. or House Shared	161	369.11	157.22	111.00 - 1092.50
Apt. or House Alone	25	420.86	171.71	127.50 - 817.50
Sorority	70	351.14	122.44	90.50 - 707.50
Fraternity	13	409.08	113.90	141.50 - 614.00

TABLE 10

PERCENT MEAN EXPENDITURES BY BUDGET CATEGORY  
(n=349)

### Hypotheses Testing

Twenty-four hypotheses were used to test the relationship between mean monthly expenditures and college residence, sex, academic major, and academic class standing. Each null hypothesis was tested using One-way Analysis of Variance (ANOVA). The level of significance was set at  $p \leq .05$ , indicating that there is a five percent chance that differences between observed and expected frequencies are the result of sampling error. If a significant difference was reported by the ANOVA results, the Scheffe multiple comparison method was used to determine the source of the difference.

Each null hypothesis is stated, and the hypotheses testing is reported. Results of the null hypotheses testing are as they appeared on the statistical computation printouts.

$H_{01}$  There is no significant difference in mean total expenditures by college residence.

A One-way Analysis of Variance was used to test this hypothesis. Significant differences were found between mean total expenditures and resident categories. The  $F$ -Ratio of 2.441 was significant at the .05 level (Table 11). The null hypothesis of no significant difference was rejected. However, as a result of the Scheffe procedure, no significant differences could be detected among the five college residence groups and reported mean total expenditures.

TABLE 11

## MEAN TOTAL EXPENDITURES BY COLLEGE RESIDENCE AND ANOVA TABLE

College Residence		n	Mean Score		
Dorm & Co-op		81	322.70		
Apartment or House Shared		160	369.11		
Apartment or House Alone		25	420.86		
Fraternity		70	357.14		
Sorority		13	409.08		

Source	DF	SS	MS	F-Ratio	Signif. of F
Between Groups	4	250031.10	62507.77	2.441	.0466
Within Groups	344	8807878.96	25604.30		
Total	348	9057910.05			

$H_0$  There is no significant difference in mean living expenditures by college residence.

This hypothesis was tested using a One-way Analysis of Variance, which resulted in an  $F$ -Ratio of 6.046. This result indicates a significant difference at the .05 level (Table 12). It appears that mean living expenditures reported by students were influenced by where a student chooses to live while attending Oregon State University. The null hypothesis of no significant difference was rejected. The Scheffe



TABLE 12

## MEAN LIVING EXPENDITURES BY COLLEGE RESIDENCE AND ANOVA TABLE

College Residence		n	Mean Score		
Dorm & Co-op		81	169.67		
Apartment or House Shared		160	198.05		
Apartment or House Alone		25	257.68		
Fraternity		69	195.31		
Sorority		13	213.17		

Source	DF	SS	MS	F-Ratio	Signif. of F
Between Groups	4	155814.26	38953.57	6.046	.0001
Within Groups	343	2209963.98	6443.04		
Total	347	2365778.24			

multiple comparison procedure indicates that mean living expenditures are significantly higher for apartment or house alone residents than for dormitory and cooperative residents, apartment and house shared residents, or sorority residents.

$H_03$  There is no significant difference in mean educational expenditures by college residence.

A One-way Analysis of Variance was used to test this hypothesis. Significant differences were found in mean educational expenditures by

college residence. The resultant  $F$ -Ratio of 2.908 was significant at the .05 level; therefore, the null hypothesis of no significant difference was rejected (Table 13). As a result of the Scheffe procedure, it appears that there are no detectable differences among college residence groups and their reported mean educational expenditures.

TABLE 13

## MEAN EDUCATIONAL EXPENDITURES BY COLLEGE RESIDENCE AND ANOVA TABLE

College Residence	n	Mean Score
Dorm & Co-op	79	29.66
Apartment or House Shared	149	21.83
Apartment or House Alone	21	21.98
Fraternity	65	28.78
Sorority	12	34.17

Source	DF	SS	MS	$F$ -Ratio	Signif. of F
Between Groups	4	5240.16	1310.04	2.908	.0219
Within Groups	321	144632.74	450.57		
Total	325	149872.91			

H<sub>0</sub> 4 There is no significant difference in mean automobile expenditures by college residence.

A One-way Analysis of Variance was used to test the relationship between mean automobile expenditures by college residence. The resultant F-Ratio of 5.673 ( $p \leq .05$ ) indicates a significance (Table 14). The null hypothesis of no significant difference was rejected. Results from the Scheffe procedure indicate that mean automobile expenditures reported by sorority residents is significantly lower than expenditures reported by apartment and house alone residents or fraternity residents.

TABLE 14

## MEAN AUTOMOBILE EXPENDITURES BY COLLEGE RESIDENCE AND ANOVA TABLE

College Residence	n	Mean Score
Dorm & Co-op	57	25.29
Apartment or House Shared	137	35.91
Apartment or House Alone	21	58.12
Fraternity	50	13.51
Sorority	10	72.80

Source	DF	SS	MS	<u>F</u> -Ratio	Signif. of F
Between Groups	4	52602.16	13150.54	5.673	.0002
Within Groups	270	625926.38	2318.25		
Total	274	678528.55			

H<sub>0</sub> 5 There is no significant difference in mean personal expenditures by college residence.

Using a One-way Analysis of Variance to test this hypothesis resulted in an F-Ratio of 2.088 which was not significant at the .05 level (Table 15). A student's choice of residence does not appear to influence mean personal expenditures. The null hypothesis of no significant difference was retained.

TABLE 15

## MEAN PERSONAL EXPENDITURES BY COLLEGE RESIDENCE AND ANOVA TABLE

College Residence	n	Mean Score
Dorm & Co-op	81	76.17
Apartment or House Shared	160	85.33
Apartment or House Alone	25	68.60
Fraternity	70	101.24
Sorority	13	97.54

Source	DF	SS	MS	<u>F</u> -Ratio	Signif. of F
Between Groups	4	33400.02	8350.00	2.088	.0820
Within Groups	344	1375818.03	3999.47		
Total	348	1409218.05			

$H_0$  6 There is no significant difference in mean miscellaneous expenditures by college residence.

The results of One-way Analysis of Variance testing indicated no significant differences in mean miscellaneous expenditures by college residence. The  $F$ -Ratio of .469 was not significant at the .05 level; therefore, the null hypothesis was retained (Table 16).

TABLE 16

## MEAN MISCELLANEOUS EXPENDITURES BY COLLEGE RESIDENCE AND ANOVA TABLE

College Residence	n	Mean Score
Dorm & Co-op	79	30.89
Apartment or House Shared	156	35.55
Apartment or House Alone	23	29.67
Fraternity	65	29.08
Sorority	10	13.95

Source	DF	SS	MS	$F$ -Ratio	Signif. of F
Between Groups	4	5988.10	1497.03	.469	.7586
Within Groups	328	1047372.97	3193.21		
Total	332	1053361.08			

$H_0$  There is no significant difference in mean total expenditures by sex.

A One-way Analysis of Variance was used to test the relationship between mean total expenditures by sex. There are significant differences in mean total expenditures by sex. The  $F$ -Ratio was 6.634, indicating significance at the .05 level. The null hypothesis of no significant difference was rejected (Table 17). Male students appear to spend significantly more for monthly mean total expenditures than do female students.

TABLE 17

## MEAN TOTAL EXPENDITURES BY SEX AND ANOVA TABLE

Sex	n	Mean Score
Male	77	402.60
Female	272	349.39

Source	DF	SS	MS	$F$ -Ratio	Signif. of F
Between Groups	1	169913.98	169913.98	6.634	.0104
Within Groups	347	8887996.08	25613.82		
Total	348	9057910.05			

H<sub>0</sub>8 There is no significant difference in mean living expenditures by sex.

A One-way Analysis of Variance was used to test this hypothesis. There were no significant differences found in mean living expenditures by sex. The resultant F-Ratio of .413 was not significant at the .05 level. The null hypothesis of no significant difference was retained (Table 18).

TABLE 18

MEAN LIVING EXPENDITURES BY SEX AND ANOVA TABLE

Sex	n	Mean Score
Male	77	201.10
Female	271	194.24

Source	DF	SS	MS	<u>F</u> -Ratio	Signif. of F
Between Groups	1	2822.84	2822.84	.413	.5207
Within Groups	346	2362955.41	6829.35		
Total	347	2365778.24			

H<sub>0</sub>9 There is no significant difference in mean educational expenditures by sex.

A One-way Analysis of Variance was used to test this hypothesis.

There were no significant differences found in mean educational expenditures by sex. The resultant  $F$ -Ratio of 3.155 was not significant at the .05 level. The null hypothesis of no significant difference was retained (Table 19).

TABLE 19

## MEAN EDUCATIONAL EXPENDITURES BY SEX AND ANOVA TABLE

Sex	n	Mean Score
Male	68	29.68
Female	258	24.49

Source	DF	SS	MS	$F$ -Ratio	Signif. of F
Between Groups	1	1445.29	1445.29	3.155	.0766
Within Groups	324	148427.62	458.11		
Total	325	149872.91			

$H_0$  There is no significant difference in mean automobile expenditures by sex.

A One-way Analysis of Variance was used to test the relationship of mean automobile expenditures by sex. It appears that there is a relationship between mean automobile expenditures reported by students and sex. The  $F$ -Ratio of 21.355 was significant at the .05 level (Table



20). The null hypothesis of no significant difference was rejected. Male students report significantly higher monthly mean automobile-related expenditures than do female students.

TABLE 20

MEAN AUTOMOBILE EXPENDITURES BY SEX AND ANOVA TABLE

Sex	n	Mean Score
Male	67	56.25
Female	208	25.08

Source	DF	SS	MS	F-Ratio	Signif. of F
Between Groups	1	49225.92	49225.92	21.355	.0000
Within Groups	273	629302.63	2305.14		
Total	274	678528.55			

H<sub>011</sub> There is no significant difference in mean personal expenditures by sex.

One-way Analysis of Variance testing results in no significant differences between personal expenditures by sex. With an F-Ratio of .892 ( $p > .05$ ) the null hypothesis of no significant difference was retained (Table 21).

TABLE 21

## MEAN PERSONAL EXPENDITURES BY SEX AND ANOVA TABLE

Sex	n	Mean Score
Male	77	91.70
Female	272	83.94

Source	DF	SS	MS	F-Ratio	Signif. of F
Between Groups	1	3613.86	3613.86	.892	.3456
Within Groups	347	1405604.19	4050.73		
Total	348	1409218.05			

H<sub>0</sub>12 There is no significant difference in mean miscellaneous expenditures by sex.

A One-Way Analysis of Variance was used to test the relationship between mean miscellaneous expenditures and sex. The F-Ratio was .705 ( $p > .05$ ), indicating no significance (Table 22). The null hypothesis of no significant difference was retained.

TABLE 22

## MEAN MISCELLANEOUS EXPENDITURES BY SEX AND ANOVA TABLE

Sex	n	Mean Score			
Male	72	37.06			
Female	261	30.76			

Source	DF	SS	MS	<u>F</u> -Ratio	Signif. of F
Between Groups	1	2239.84	2239.84	.705	.4016
Within Groups	331	1051121.24	3175.59		
Total	332	1053361.08			

$H_0^{13}$  There is no significant difference in mean total expenditures by academic class standing.

One-way Analysis of Variance was used to test this hypothesis. No significant differences were found in mean total expenditures by academic class standing (Table 23). The F-Ratio was 1.801, indicating no significance at the .05 level. The null hypothesis of no significant difference was retained.

TABLE 23

## MEAN TOTAL EXPENDITURES BY CLASS STANDING AND ANOVA TABLE

Class Standing	n	Mean Score			
Sophomore	52	341.30			
Junior	120	346.05			
Senior	177	377.18			

Source	DF	SS	MS	F-Ratio	Signif. of F
Between Groups	2	93341.74	46670.87	1.801	.1665
Within Groups	346	8964568.31	25909.16		
Total	348	9057910.05			

$H_0^{14}$  There is no significant difference in mean living expenditures by academic class standing.

One-way Analysis of Variance testing resulted in no significant differences in mean living expenditures by academic class standing (Table 24). With an F-Ratio of .070 ( $p > .05$ ), no significance was found. The null hypothesis of no significant difference was retained.

TABLE 24

## MEAN LIVING EXPENDITURES BY CLASS STANDING AND ANOVA TABLE

Class Standing		n		Mean Score	
Sophomore		52		192.16	
Junior		119		195.46	
Senior		177		197.01	

Source	DF	SS	MS	F-Ratio	Signif. of F
Between Groups	2	957.81	478.90	.070	.9325
Within Groups	345	2364820.44	6854.55		
Total	347	2365778.24			

$H_0$  15 There is no significant difference in mean educational expenditures by academic class standing.

One-way Analysis of Variance was used to test this hypothesis. No significant differences were found in mean educational expenditures by academic class standing. The resultant  $F$ -Ratio of 1.597 was not significant at the .05 level (Table 25). The null hypothesis of no significant difference was retained.

TABLE 25

## MEAN EDUCATIONAL EXPENDITURES BY CLASS STANDING AND ANOVA TABLE

Class Standing	n	Mean Score
Sophomore	47	21.99
Junior	113	28.18
Senior	166	24.82

Source	DF	SS	MS	F-Ratio	Signif. of F
Between Groups	2	1467.49	733.74	1.597	.2041
Within Groups	323	148405.42	459.46		
Total	325	149872.91			

$H_{016}$  There is no significant difference in mean automobile expenditures by academic class standing.

A One-way Analysis of Variance was used to test this hypothesis. No significant differences were found between automobile expenditures by academic class standing. The  $F$ -Ratio of 2.464 indicated no significance at the .05 level (Table 26). The null hypothesis of no significant difference was retained.

TABLE 26

## MEAN AUTOMOBILE EXPENDITURES BY CLASS STANDING AND ANOVA TABLE

Class Standing	n	Mean Score			
Sophomore	38	30.53			
Junior	90	23.97			
Senior	147	38.55			

Source	DF	SS	MS	F-Ratio	Signif. of F
Between Groups	2	12073.33	6036.66	2.464	.0870
Within Groups	272	666455.22	2450.20		
Total	274	678528.55			

H<sub>0</sub> 17 There is no significant difference in mean personal expenditures by academic class standing.

Using a One-way Analysis of Variance, no significant differences were found between mean personal expenditures by academic class standing. The resultant F-Ratio of 1.875 ( $p > .05$ ) was not significant. The null hypothesis of no significant difference was retained (Table 27).

TABLE 27

## MEAN PERSONAL EXPENDITURES BY CLASS STANDING AND ANOVA TABLE

Class Standing	n	Mean Score			
Sophomore	52	81.35			
Junior	120	78.08			
Senior	177	92.06			

Source	DF	SS	MS	F-Ratio	Signif. of F
Between Groups	2	15113.52	7556.76	1.875	.1548
Within Groups	346	1394104.53	4029.20		
Total	348	1409218.05			

$H_0$  There is no significant difference in mean miscellaneous expenditures by academic class standing.

One-way Analysis of Variance resulted in no significant differences in mean miscellaneous expenditures by academic class standing. The  $F$ -Ratio was .433, indicating no significance at the .05 level (Table 28). The null hypothesis of no significant difference was retained.



TABLE 28

## MEAN MISCELLANEOUS EXPENDITURES BY CLASS STANDING AND ANOVA TABLE

Class Standing	n	Mean Score			
Sophomore	51	26.11			
Junior	113	31.47			
Senior	169	34.38			

Source	DF	SS	MS	F-Ratio	Signif. of F
Between Groups	2	2756.43	1378.22	.433	.6490
Within Groups	330	1050604.65	3183.65		
Total	332	1053361.08			

H<sub>0</sub>19 There is no significant difference in mean total expenditures by academic major.

A One-way Analysis of Variance was used to test the relationship between mean total expenditures by academic major classification. The F-Ratio was 3.135 ( $p \leq .05$ ), which indicated significant differences among total expenditures by various academic majors (Table 29). The null hypothesis was rejected. The Scheffe multiple comparison method indicates that monthly mean total expenditures for professional majors are significantly higher than monthly mean total expenditures reported by general majors.

TABLE 29

## MEAN TOTAL EXPENDITURES BY ACADEMIC MAJOR AND ANOVA TABLE

Academic Major		n	Mean Score		
Home Economics		109	355.71		
Education		117	355.47		
Professional		65	413.55		
General		55	329.30		

Source	DF	SS	MS	F-Ratio	Signif. of F
Between Groups	3	240799.11	80266.37	3.135	.0257
Within Groups	342	8756924.87	25605.04		
Total	345	8997723.98			

$H_0$  There is no significant difference in mean living expenditures by academic major.

A One-way Analysis of Variance testing resulted in no significant differences in mean living expenditures by academic major (Table 30). With an F-Ratio of .640 there were no significant differences at the .05 level. The null hypothesis of no significant difference was retained.

TABLE 30

## MEAN LIVING EXPENDITURES BY ACADEMIC MAJOR AND ANOVA TABLE

Academic Major	n	Mean Score			
Home Economics	108	197.83			
Education	117	198.22			
Professional	65	201.39			
General	55	182.26			

Source	DF	SS	MS	F-Ratio	Signif. of F
Between Groups	3	13200.46	4400.15	.640	.5897
Within Groups	341	2344051.40	6874.05		
Total	344	2357251.86			

$H_0$  There is no significant difference in mean educational expenditures by academic major.

A One-way Analysis of Variance was used to test this hypothesis. No significant differences were found in mean educational expenditures by academic major. The null hypothesis of no significant difference was retained. The F-Ratio of .654 was not significant at the .05 level (Table 31).

TABLE 31

## MEAN EDUCATIONAL EXPENDITURES BY ACADEMIC MAJOR AND ANOVA TABLE

Academic Major	n	Mean Score			
Home Economics	106	24.70			
Education	108	27.98			
Professional	61	24.29			
General	49	24.09			

Source	DF	SS	MS	F-Ratio	Signif. of F
Between Groups	3	911.91	303.97	.654	.5812
Within Groups	341	148834.65	465.11		
Total	344	149746.56			

$H_0$  There is no significant difference in mean automobile expenditures by academic major.

A One-way Analysis of Variance was used to test this hypothesis. Significant differences were found in mean automobile expenditures by a student's choice of academic major. The F-Ratio of 2.928 was significant at the .05 level (Table 32). The null hypothesis of no significant difference was rejected. As a result of the Scheffe procedure, it appears that no significant difference could be detected among academic majors and mean reported automobile expenditures.

TABLE 32

## MEAN AUTOMOBILE EXPENDITURES BY ACADEMIC MAJOR AND ANOVA TABLE

Academic Major	n	Mean Score			
Home Economics	82	26.23			
Education	87	36.79			
Professional	54	46.81			
General	49	21.56			

Source	DF	SS	MS	F-Ratio	Signif. of F
Between Groups	3	21488.78	7162.93	2.928	.0342
Within Groups	268	655676.68	2446.55		
Total	271	677165.47			

H<sub>0</sub> 23 There is no significant difference in mean personal expenditures by academic major.

This hypothesis was tested using a One-way Analysis of Variance, which resulted in an F-Ratio of 3.380. This result provides evidence of a significant difference at the .05 level (Table 33). It appears that mean monthly personal expenditures reported by undergraduate students in this study are related to a student's choice of academic major. The null hypothesis of no significant difference was rejected. Although the ANOVA results were significant, the Scheffe procedure was unable to

detect any differences between academic majors and mean personal expenditures.

TABLE 33

## MEAN PERSONAL EXPENDITURES BY ACADEMIC MAJOR AND ANOVA TABLE

Academic Major	n	Mean Score
Home Economics	109	82.00
Education	117	80.28
Professional	65	108.35
General	55	79.46

Source	DF	SS	MS	F-Ratio	Signif. of F
Between Groups	3	40383.01	13461.00	3.380	.0185
Within Groups	342	1361927.29	3982.24		
Total	345	1402310.30			

$H_0$  24 There is no significant difference in mean miscellaneous expenses by academic major.

A One-way Analysis of Variance showed no significant differences in miscellaneous expenses by academic major. The resultant  $F$ -Ratio of 1.496 indicated no significance at the .05 level. Therefore, the null hypothesis of no significance was retained (Table 34).

TABLE 34

MEAN MISCELLANEOUS EXPENDITURES BY ACADEMIC MAJOR  
AND ANOVA TABLE

Academic Major	n	Mean Score
Home Economics	107	34.56
Education	109	25.53
Professional	63	43.47
General	52	28.28

Source	DF	SS	MS	F-Ratio	Signif. of F
Between Groups	3	14238.35	4746.12	1.496	.2155
Within Groups	327	1037501.64	3172.79		
Total	330	1051739.99			

## SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

### Summary

The purpose of this exploratory study was to analyze expenditure data collected from undergraduate students to determine the supportive costs of attending Oregon State University. More specifically, the objectives of the study were to determine: (1) the total range of expenditures; (2) measures of central tendency in each budget category; and (3) relationships between the expenditures and choice of college residence, sex, academic major, and academic class standing.

This study utilized data collected from undergraduate students enrolled in the Family Resource Management Department's personal finance classes at Oregon State University during the 1980-1981 academic year. This study included 349 students from the population of 418 students registered in personal finance classes during the time of the study. The subsample was limited to unmarried sophomore, junior, and senior students enrolled full-time at Oregon State University.

An instrument developed from previous class assignments, student input, and standard budget information was used to collect demographic and expenditure data from each participant. Demographic characteristics collected and used for purposes of this study were sex, age, academic class standing, academic major, and college residence. A weekly expense diary detailing twenty-seven expenditures considered typical of college students was maintained by each participant during a consecutive two-



month period at the beginning of each term. For final analysis purposes, expenditures were grouped into the following budget categories:

1. living expenses
2. educational expenses
3. automobile expenses
4. personal expenses, and
5. miscellaneous expenses

Frequency distributions were used to analyze demographic characteristics of the student participants in the study. Slightly more than 88 percent of the sample were between the ages of 20 years and 23 years. Only 10 percent of the participants were over 24 years. More than three-fourths (77.1 percent) of the sample were female. One-half of the participants were represented by senior class standing. Juniors accounted for 34.3 percent, while sophomores represented only 14.9 percent of survey respondents. Education and home economics majors each accounted for one-third of the students in the study. Professional (18.6 percent) and general (15.8 percent) majors comprised the remaining one-third of the study participants by academic major. Slightly less than one-half of the sample resided in apartments or houses shared with others (46.8 percent). Students living in university-sponsored housing accounted for 47 percent of the sample, while 7 percent of the respondents lived alone in an apartment or house.

The measure of central tendency used to analyze expenditure data throughout this study was the mean. Individual budget component data

from month one and month two were grouped by related components into living, educational, automobile, personal, and miscellaneous budget categories. A mean was calculated for each budget category as well as for total expenditures. The resultant means were used for all statistical analyses in this study.

The monthly mean for total expenditures reported by all 349 students was \$361.13. Three-hundred forty-eight students reported spending a monthly mean of \$195.75 for living expenditures. A total of 326 students (93.4 percent) reported a monthly average of \$25.58 for educational expenditures. The monthly mean for automobile expenditures spent by 275 (78.8 percent) students was \$32.67. Students (100 percent) in this study reported incurring monthly mean personal expenditures of \$85.65. Ninety-four percent of the students (n=333) reported spending a monthly mean of \$32.13 for miscellaneous expenses.

#### Summary of Null Hypotheses Findings

Twenty-four null hypotheses were used to test the relationship between college residence, sex, academic major, and academic class standing. Each null hypothesis was tested using a One-way Analysis of Variance (ANOVA). If the ANOVA test resulted in a significant difference, the Scheffe multiple comparison method was used as a follow-up statistic to determine the source of the difference. The probability level for all statistical tests was set at  $p \leq .05$ . A summary of null hypotheses findings are shown in Table 35.

No significant relationships were found between

1. college residence and monthly mean personal or miscellaneous expenditures reported by students;
2. sex and monthly mean living, educational, personal, or miscellaneous expenditures reported by students;
3. academic class standing and monthly mean living, educational, automobile, personal, miscellaneous or total expenditures reported by students; and
4. academic major classification and monthly mean living, educational, or miscellaneous expenditures reported by students.

There were significant relationships between college residence and a student's living, educational, automobile, and total expenditures. Living alone in off-campus housing appeared to be responsible for the highest reported expenses in total expenditures, as well as in living and automobile and budget categories. However, educational expenses, such as textbooks, laboratory, and supplies were highest among university-sponsored housing residents.

Significant relationships were found between the sex of a student and automobile-related and total expenditures: Male students outspent female students in both automobile and total expenditures.

Academic major was found to be significantly related to a student's mean automobile, personal, and total monthly expenditures. On the basis

TABLE 35

## SUMMARY OF HYPOTHESES FINDINGS USING ANOVA

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H <sub>0</sub> 1	There is no significant difference in mean total expenditures by college residence.	.0466 level of sig. (no sig. diff. among residence groups)
H <sub>0</sub> 2	There is no significant difference in mean living expenditures by college residence.	.0001 level of sig. (apartment or house alone is sig. higher than dormitory or cooperative, apartment or house alone, or sorority)
H <sub>0</sub> 3	There is no significant difference in mean educational expenditures by college residence.	.0219 level of sig. (no sig. diff. among res. groups)
H <sub>0</sub> 4	There is no significant difference in mean automobile expenditures by college residence.	.0002 level of sig. (sorority is sig. lower than apartment and house alone or fraternity)
H <sub>0</sub> 5	There is no significant difference in mean personal expenditures by college residence.	n.s
H <sub>0</sub> 6	There is no significant difference in miscellaneous expenditures by college residence.	n.s
H <sub>0</sub> 7	There is no difference in mean total expenditures by sex.	.014 level of sig.
H <sub>0</sub> 8	There is no significant difference in mean living expenditures by sex.	n.s.
H <sub>0</sub> 9	There is no significant difference in mean educational expenditures by sex.	n.s.

H <sub>0</sub> 10	There is no significant difference in mean automobile expenditures by sex.	.0000 level of sig.
H <sub>0</sub> 11	There is no significant difference in mean personal expenditures by sex.	n.s.
H <sub>0</sub> 12	There is no significant difference in mean miscellaneous expenditures by sex.	n.s.
H <sub>0</sub> 13	There is no significant difference in mean total expenditures by academic class standing.	n.s.
H <sub>0</sub> 14	There is no significant difference in mean living expenditures by academic class standing.	n.s.
H <sub>0</sub> 15	There is no significant difference in mean educational expenditures by academic class standing.	n.s.
H <sub>0</sub> 16	There is no significant difference in mean automobile expenditures by academic class standing.	n.s.
H <sub>0</sub> 17	There is no significant difference in mean personal expenditures by academic class standing.	n.s.
H <sub>0</sub> 18	There is no significant difference in mean miscellaneous expenditures by academic class standing.	n.s.
H <sub>0</sub> 19	There is no significant difference in mean total expenditures by academic major.	.0257 level of sig. (professional majors have sig. higher mean total expenditures than general majors)
H <sub>0</sub> 20	There is no significant difference in mean living expenditures by academic major.	n.s.
H <sub>0</sub> 21	There is no significant difference in mean reported educational expenditures by academic major.	n.s.
H <sub>0</sub> 22	There is no significant difference in	.0342 level of sig.

	mean automobile expenditures by academic major.	(no sig. diff. among majors)
H <sub>0</sub> <sup>23</sup>	There is no significant difference in personal expenditures by academic major.	.0185 level of sig. (no sig. diff. among majors)
H <sub>0</sub> <sup>24</sup>	There is no significant difference in mean reported miscellaneous expense by academic major.	n.s.

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of this study, professional academic majors reported the highest automobile, personal, and total expenditures among all other academic major classifications.

#### Discussion of Hypotheses Findings

Relatively little empirical research has been conducted at individual institutions to determine what students actually spend on budget items and how total and component expenditures vary with demographic and situational characteristics of the undergraduate student. This study attempts to analyze undergraduate expenditure data to determine the supportive costs of attending Oregon State University.

From the results of this study, it appears that where the post-secondary undergraduate chooses to reside during an academic term may significantly affect the costs incurred, and thus, his or her total education costs. Students living alone in off-campus housing reported the highest living, educational, automobile, and total expenditures per month. However, university-sponsored housing, specifically dormitory or cooperative residents, had the lowest living and total expenditures per

month.

These results agree with Hills and Van Dusen's (1982) California postsecondary institution study, Bhella's 1979 Iowa State University study, Barks' (1979) University of Pennsylvania expense survey, and Moore's (1982) budget study at the University of Missouri-Columbia. However, results of this study were contradictory with Maxey et al. (1979) in which students living on campus incurred higher room and board expenses than students living off campus.

It was determined that whether a student was enrolled as a sophomore, junior, or senior did not influence the level of expenditures in budget categories analyzed in this study. These research findings are not supported by Barks' 1979 study of freshmen and junior students at the University of Pennsylvania, in which the upperclassmen outspent freshmen for mean personal expenses. Similarly, Hendricks and Gersmehl (1981) reported that successive class levels had progressively higher expenses.

Results of this study indicated that males spent more per month than females, not only in mean total expenditures, but also in automobile-related expenses. Jackson and Pogue's 1983 study, however, found that mean educational expenses differed not only by gender but by academic class standing. Regardless of academic class standing, male students outspent female students in automobile costs. Freshmen and sophomore males reported higher room and board costs, but sophomore and senior females outspent sophomore and senior males for clothing. Finally, senior females reported higher room and board costs than did

senior male classmates. Barks' (1979) study indicated that male undergraduates outspent female undergraduates in the areas of transportation, food, recreation, and club expenses, while females reported higher educational, clothing, and personal expenses. Contrary to the results of this study, Hendricks and Gersmehl (1981) found no real differences in reported expenses by sex.

### Implications

In light of current economic and political efforts to decrease the federal deficit, federal, and ultimately state financial aid programs are being severely reduced. With concurrent increases in college costs, families and students are faced with serious problems in attempts to pay for college educations. It becomes critical for students and families to neither under- nor overestimate college expenditures. If students must increasingly rely on loans to finance their education, the eventual payback can have adverse long-term economic implications. The dilemma of short-term budget deficits must be resolved if educational costs are underestimated. There is a need for research such as this study which determines the actual costs of attending Oregon State University as well as what factors affect those costs.

Student-reported data is the most effective means for determining the kinds and amounts of actual expenditures at specific institutions. Financial aid officials are faced with the continual task and responsibility of building realistic budgets responsive to the needs of students. Based on the findings of this study, financial aid



administrators at Oregon State University can use the data in the development of institution-specific student expenses budget guidelines and in need analysis to award financial aid.

There is a need to bridge the existing information gap felt by families, students, and professionals as they face access, choice, and retention decisions associated with attending a postsecondary institution. It has become increasingly difficult if not impossible for families and students to pay educational costs from savings and current income while at the same time providing for regular family financial needs, desires, and interests. Family financial planning can be the crucial tool used to meet the educational expenses of its members and insure the economic integrity of the family. Findings based on actual student-reported data from this study can be incorporated into family, high school, community, and postsecondary financial planning programs to provide not only information on the total direct and supportive costs but collegian spending patterns. It is also suggested that programs aimed at teaching money management skills to undergraduate students also be developed.

Results of this study suggest that postsecondary expenses can be minimized. Albeit variable expenditures, it is clear from this study that personal and automobile expenses represent significant expenditures for Oregon State University undergraduates and as such, must be anticipated and considered in budget planning. Furthermore, expenses can be controlled by where a student chooses to live and academic major selection. Since males tended to outspend females in budget categories

and in total expenditures, sex is also a significant factor in reported expenses. From this study students, families, and professionals may examine spending patterns for such variable expenses and controlling factors to realign needs and wants in establishing budget guidelines and thereby minimizing expenses.

### Recommendations

The following recommendations are made based on this research:

1. It is recommended that financial aid administrators re-examine the concept of one standard budget for all students and develop individualized budgets for student subpopulations whose needs differ considerably from the traditional student in this research.
2. It is recommended that financial aid officials conduct expenditure diary research for each term to determine expenditure differences specific for each term during the academic year. The resulting data could then be used to project a nine-month budget for students as well as to assess the adequacy of the financial aid budget used for needs analysis.
3. It is recommended that future research include source and level of income to determine their effects on spending patterns of students attending Oregon State University.
4. It is recommended that the diary instrument be redesigned into an easy, simple format using budget components representative of those in the typical student budget being studied.
5. It is recommended that student expense data be continuously

updated and research on costs specific to Oregon State University be conducted on an annual basis.

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APPENDICES



## APPENDIX A

## OPERATIONAL DEFINITION OF TERMS

A Handbook for Use in the Preparation  
of Student Expense Budgets

Books and Supplies - The average cost of books, or the use of books, for a given group of students enrolled in a similar broad category.

Any special needs of a particular major groups should be added to this figure, i.e., art, nursing, medical.

Child Maintenance/Care - Food, housing, clothing, medical and dental, and private school fees relating to dependents. Child care is included here, if appropriate, as is the cost of transportation involved in child care.

Child Support and/or Alimony - A monthly amount provided for someone not living with the student.

Costs Associated with a Handicap - Any special transportation or equipment needs due to a physical disability.

Current Debt Repayment - Medical, dental, auto, furnishings, spouse's educational debt.

Medical/Life Insurance - Medical and life insurance costs.

Non-Insured Medical Costs - Routine care to include prescription and non-prescription drugs, therapy and maternity costs, optional dental care and life insurance.

Personal Expenses - Clothing and upkeep, recreation (movies, concerts, sports, leisure reading, records) and grooming aids.

Room and Board - Residence hall costs, rent, house payment and taxes, utility bills and phone charges and food purchased at grocery stores and goods purchased at restaurants or cafeterias.

Spouse's Educational Costs - Tuition and books as described above if incurred during the budget period.

Spouse's Employment Allowances - The additional transportation, clothing and grooming aids relative to the spouse being fully employed.

Student Expense Budget - The reasonable costs necessary (that is moderate/modest but adequate) to enable a student to attend a postsecondary educational institution during an academic year or proportionate period thereof. The budget should provide for the essential goods and services necessary to permit the individual student to devote his or her primary energies to the pursuit of an acceptable objective.

Transportation - The cost of (1) all public transportation to and from school, (2) the cost of maintaining a car (gas, oil, insurance, license) for commuting to school, when public transportation is not available, and (3) the cost of going home when school is not in session.

Tuition and Fees - Cost of instruction to the student as stated in catalog, before any deduction of waiver, generally charged to all students. Application, matriculation, and student activity fees are to be considered when appropriate.

Tutorial Expenses - The actual documented per-hour charges for necessary tutorial expenses.

(Clark, 1977)

## APPENDIX B

## OPERATIONAL DEFINITION OF TERMS

Student Expenses at Postsecondary Institutions

Books and Supplies - Books, pencils, paper, and other supplies used in a student's studies.

Commuting Student - Those students who live at home with their parents during the academic school year.

Expense budget - An all-inclusive summary of both direct educational and living expenses. The budget is composed of five principal parts: tuition and fees, books and supplies, room and board, personal expenses, and transportation.

Personal Expenses - Personal or other expenditures (may also be miscellaneous) which include such items as clothing, laundry, toiletries, recreation, medical insurance, and incidental furnishings for dormitory use.

Resident Students - Students who do not live at home with their parents during the academic school year.

Transportation - Travel for the dependent who travels from his or her home (twice a year) or the commuter student who travels between home and institution.

Tuition and Fees - Tuition is the institution's charge for instruction.

Fees may be charged for such services as the library, health center, student center, and so on.

(Case & Jacobsen, 1979)

## APPENDIX C

## OPERATIONAL DEFINITION OF TERMS

National Association of Student Financial Aid AdministratorsBasic Educational Expenses

Books and Supplies - The cost of educational materials related to the student's course of study.

Fees - Additional mandatory or optional charges postsecondary institutions charge to all students, such as orientation, parking, student activities, student government, laboratory, equipment rental, and sometimes, health fees.

Other Educational Expenses - Nonrecurring expenses that are necessary to satisfy the student's course of study, for example, additional tuition and fees, fees for credit by examination.

Tuition - The amount that a postsecondary institution charges a student for instruction and other costs related to his or her course of study.

## Basic Living Expenses

Food - The reasonable costs necessary to provide a nutritionally adequate diet for the student and, if the student is married or has children, the student's family. Allowances for food vary according to whether the student lives with a parent, in institutional housing, or in off-campus housing.

Medical and Dental Expenses - Typical medical and dental expenses, including insurance for the student and if married, the student's family.

Miscellaneous Expenses - May include life insurance, costs associated with a handicap, debt repayment, spouse's educational expenses, children's educational expenses, and child care.

Personal Expenses - May include clothing, laundry and cleaning, personal hygiene and grooming, and recreation.

Room - Housing costs incurred by the student and, if the student is married or has children, the student's family. Room costs are defined by categorizing the student's residence as either living with parents, living in institutional housing, or living in off-campus housing.

Transportation - The student's cost of travel between his or her home and the institution. Allowances vary with whether the student lives with parents, in institutional housing, or in off-campus housing.

Reasonableness - A prescriptive norm for defining any student expense budget which accommodates a moderate level of living for students attending a postsecondary institution.

Student Expense Budget - A student's reasonable costs of attending an institution for a given period of time.

(Case, 1983)



## APPENDIX D

## STUDENT EXPENDITURE SURVEY INSTRUMENT

Oregon State University  
School of Home Economics  
Family Resource Management

FRM 341

Term Project  
Financial Record

Due Date: \_\_\_\_\_

INSTRUCTIONS

Using the forms provided as a guide, keep track of your expenses for the eight (8) week period beginning \_\_\_\_\_ and ending \_\_\_\_\_. The record you submit should indicate weekly totals for each category. You should keep a daily, specific account of expenses to help you in this project.

This project is worth 25 points (12.5% of your total grade). The information you provide will be used in a Family Resource Management research project. The data will remain anonymous (put your name only on this page, your Social Security number on all others), and will be coded before being used for research purposes.

Oregon State University  
 School of Home Economics  
 Family Resource Management

FRM 341

Term Project  
 Financial Record

\_\_\_\_\_  
 Social Security #

DATA SHEET

1. Year in School (circle one): Soph Jr. Sr. Post Bac. Grad.

2. Major (write in): \_\_\_\_\_

3. Date of Birth (write in): \_\_\_\_\_

4. Marital Status (check appropriate response):

Never Married

Divorced

Married

Widowed

Separated

5. Sex (circle one): Male Female

6. Source of Income (check appropriate response(s)):

Wages or Salary - full-time work

Wages or Salary - part-time work

Allowance from Parents

Student Loan

Grant, Scholarship or Prize

Other (please specify) \_\_\_\_\_

\_\_\_\_\_ Social Security #

7. Permanent Residence (check appropriate response and indicate specific information):

Urban or Suburban location

\_\_\_\_\_, \_\_\_\_\_  
 (City or Town) (County)  
 \_\_\_\_\_  
 (State)

Rural Location

\_\_\_\_\_, \_\_\_\_\_  
 (City or Town) (County)  
 \_\_\_\_\_  
 (State)

8. College Residence (check the appropriate response):

Dormitory

Sorority/Fraternity

Apartment shared with others

Cooperative

Apartment alone

Parents' Home

House with others

Other (please specify):  
 \_\_\_\_\_

9. Number of credits this term (write in): \_\_\_\_\_

10. Number of Dependents (write in and indicate specific information):

\_\_\_\_\_  
 #

Age and sex of each:

\_\_\_\_ \_                      \_\_\_\_ \_                      \_\_\_\_ \_                      \_\_\_\_ \_

PERSONAL/FAMILY  
EXPENSE RECORD FOR \_\_\_\_\_

Section #  
/ /  
Social Security #

Record of Expenses

ITEM	Amount Allocated	1st Week	2nd Week	3rd Week	4th Week	Monthly Total
<b>Income: (Net take home Pay)</b>						
Salary/Wages	_____	_____	_____	_____	_____	_____
Drawn from Savings	_____	_____	_____	_____	_____	_____
Gifts/Allowances from Parents	_____	_____	_____	_____	_____	_____
Gifts from others	_____	_____	_____	_____	_____	_____
Grants/Financial Aid	_____	_____	_____	_____	_____	_____
Sale of Assets (used books, etc.)	_____	_____	_____	_____	_____	_____
Scholarships, Prizes	_____	_____	_____	_____	_____	_____
Cash on hand	_____	_____	_____	_____	_____	_____
<b>Total</b>	=====	=====	=====	=====	=====	=====
<b>Expenses:</b>						
Rent/Mortgage Payment	_____	_____	_____	_____	_____	_____
Board or Food prepared "at home"	_____	_____	_____	_____	_____	_____
Food away from home	_____	_____	_____	_____	_____	_____
Clothing	_____	_____	_____	_____	_____	_____
Laundry - dry cleaning	_____	_____	_____	_____	_____	_____
Personal Care	_____	_____	_____	_____	_____	_____
<b>Utilities:</b>						
Phone	_____	_____	_____	_____	_____	_____
Electricity	_____	_____	_____	_____	_____	_____
Water	_____	_____	_____	_____	_____	_____
Garbage	_____	_____	_____	_____	_____	_____
Natural Gas	_____	_____	_____	_____	_____	_____
Cable TV	_____	_____	_____	_____	_____	_____
<b>Education:</b>						
Tuition	_____	_____	_____	_____	_____	_____
Books	_____	_____	_____	_____	_____	_____
Supplies	_____	_____	_____	_____	_____	_____
Lab Fees	_____	_____	_____	_____	_____	_____
Subscriptions	_____	_____	_____	_____	_____	_____
<b>Transportation:</b>						
Car payment	_____	_____	_____	_____	_____	_____
Auto Insurance	_____	_____	_____	_____	_____	_____
Gasoline	_____	_____	_____	_____	_____	_____
Upkeep	_____	_____	_____	_____	_____	_____
License	_____	_____	_____	_____	_____	_____

ITEM	Amount Allotted	1st Week	2nd Week	3rd Week	4th Week	Monthly Total
Dues:						
Fraternity/Sorority	_____	_____	_____	_____	_____	_____
Professional Organizations	_____	_____	_____	_____	_____	_____
Union Dues	_____	_____	_____	_____	_____	_____
Other (specify)	_____	_____	_____	_____	_____	_____
Charge Account Payments:						
Bank Cards	_____	_____	_____	_____	_____	_____
Other Charge Accounts	_____	_____	_____	_____	_____	_____
Installment Loan Payments:						
Insurance (Life, Health, H-O)	_____	_____	_____	_____	_____	_____
Child Care:	_____	_____	_____	_____	_____	_____
Pet Care:	_____	_____	_____	_____	_____	_____
Medical & Dental:	_____	_____	_____	_____	_____	_____
Furniture/Appliances:	_____	_____	_____	_____	_____	_____
Contributions:	_____	_____	_____	_____	_____	_____
Gifts:	_____	_____	_____	_____	_____	_____
Postage & Stationery:	_____	_____	_____	_____	_____	_____
Bank Charges: (Checks, safe-deposit, etc.)	_____	_____	_____	_____	_____	_____
Savings & Investments:	_____	_____	_____	_____	_____	_____
Other:	_____	_____	_____	_____	_____	_____
GRAND TOTAL:	=====	=====	=====	=====	=====	=====

## APPENDIX E

## EXPENSE CATEGORIZATION

National Association of Student Financial Aid Administrators

## BASIC EDUCATIONAL EXPENSES:

Tuition: Charges for instruction and other costs related to student's course of study.

Allowable:

Charges for coursework creditable toward degree or other educational objective.

Out-of-state and out-of-district charges

"Overload" charges

Allowable with Documentation:

Remedial work

Study abroad or domestic change

"Enrichment" coursework

Fees: Charges necessary for student's course of study and charged to all students or to broad categories of students.

Allowable:

Mandatory fees (e.g., health, if mandatory; orientation; parking; activities; student government; laboratory; equipment rental; etc.)

Allowable with Documentation:

Optional fees (e.g., health, if optional, etc.)

Nonallowable:

Fees paid to a third party

Application fees

Matriculation fees (unless creditable toward tuition or mandatory fees)

Deposits

Books and Supplies: Cost of educational materials related to student's course of study; may also include essential equipment.

Allowable:

Required books

Necessary supplies and equipment

Allowable with Documentation:

Remedial or supplementary materials

Nonallowable:

Discretionary purchases of books, supplies, and equipment

Other Educational Expenses: Additional and nonrecurring expenses necessary to student's course of study.

Allowable with Documentation:

Fees for credit by examination, if this advances student toward degree or other educational objective

Thesis and dissertation costs

Additional costs for foreign study or domestic exchange

Cross-enrollment costs under a consortial arrangement

Field trips; field study

Tutoring

Licensing examinations

Expenses associated with senior year (may be limited to institutional aid only)

## LIVING EXPENSES:

Room: Housing costs incurred by student (and student's family).

## o Living with Parents

Allowable with Documentation:

Rent paid to or shared with parents

Nonallowable:

Housing costs

## o Institutional Housing

Allowable:

Contract price of housing for period of enrollment (standard - with roommate)

Allowable with Documentation:

Housing costs during vacation, breaks, and between terms

Nonallowable:

Utility surcharges

Telephone costs

## o Off-Campus Housing

Allowable:

Rent, utilities, local telephone service, household insurance

Mortgage payments; property taxes

Nonallowable:

Deposits, installation charges, other "start-up" costs



Food: Reasonable costs necessary to provide a nutritionally adequate diet for student (and student's family).

o Living with Parents

Allowable:

Food costs incurred away from home

Allowable with documentation:

Food costs paid to or shared with parents

Nonallowable:

Food costs included in need analysis, as part of "standard maintenance allowance"

o Institutional Housing

Allowable:

Contract price of boarding plan

Costs for meals not covered by boarding plan

Allowable with Documentation:

Additional costs for special dietary needs

o Off-Campus Housing

Allowable:

Food costs both at home and away from home

Household supplies

Allowable with Documentation:

Additional costs for special dietary needs

Transportation: Costs of travel between student's home and the institution.

o Living with Parents

Allowable:

Commuting expenses (public transit, carpooling, private car)

Mileage allowance components for operation, maintenance of vehicle

Tolls; parking costs

Allowable with Documentation:

Mileage allowance component for depreciation; insurance, state registration, taxes

Nonallowable:

Car payments

o Institutional Housing

Allowable:

Two roundtrips between student's permanent residence and institution, at economy, coach, or tourist class fare

Allowable with Documentation:

Local transportation needs (e.g., for employment, field work, internship, etc.)

Nonallowable:

Car payments

Cost of operation and maintenance of a vehicle

o Off-Campus Housing

Allowable:

Commuting expenses (public transit, carpooling, private car)

Allowable with Documentation:

Mileage allowance component for depreciation; insurance, state registration, taxes

Additional needs (e.g., essential repairs)

Emergency travel needs

Nonallowable:

Car payments

Discretionary travel (e.g., vacation or holiday travel)

Personal Expenses: Cost of clothing, laundry, cleaning, personal hygiene and grooming, and recreation.

Allowable:

"Modest but adequate" allowance

Allowable with Documentation:

Additional costs for special needs (e.g., additional clothing for change of climate, etc.)

Medical and Dental Expenses: Cost of medical and dental insurance, and noninsured or nonreimbursed necessary medical and dental costs.

Allowable:

Medical insurance costs (cf., "fees" above)

Allowable with Documentation:

Nonelective health care costs (noninsured and nonreimbursed)

Nonallowable:

Dependent student's medical costs included in need analysis, as a part of "standard maintenance allowance"

Chronic or preexisting medical care costs

Miscellaneous Expenses

## o Life Insurance

Allowable with Documentation:

For older students, life insurance in force at beginning of student status

Nonallowable:

Life insurance premiums

o Costs Associated with a Handicap

Allowable:

Reasonable allowances for expenses not covered by institution or public agency

o Debt Repayment

Allowable with Documentation:

Nondeferrable educational debt payments

Payments on consumer indebtedness

o Spouse's Employment Costs

Allowable with Documentation:

If not included in need analysis as "employment allowance," reasonable allowance

For employment-related expenses (e.g., clothing, laundry, cleaning, food away from home, personal grooming; payments for required insurance and retirement plans; dues; etc.)

o Spouse's Educational Expenses

Allowable:

Spouse's direct educational expenses (but NOT for underwriting with student's financial aid)

o Children's Educational Expenses

Allowable:

Elementary and secondary schooling costs (for federal financial aid purposes)

If postsecondary education, expected "parents' contribution" (Note: reduce student's living expense budget by amount covered by child's own student expense budget)

Nondeferrable PLUS loan payments (principal and interest) (Note: beware of duplication of "parents' contribution")

Allowable with Documentation:

Elementary and secondary schooling costs (for institutional financial aid purposes)

Nonallowable:

Income taxes (federal and state)

F.I.C.A. taxes

## o Child Care

Allowable:

Necessary costs for care while student is in classes and at work, if care is not provided by student's spouse or other family member

## o Child Support and Alimony Payments

Allowable:

Court-ordered payment amount (documented and verified that payments are made)

## o Other Miscellaneous Expenses

Allowable with Documentation:

Expenses associated with a handicap of others in student's household

Casualty and theft losses that affect student's or family's well-being

Support of others not residing with student (e.g., aged parents, et al.)

Nonallowable:

Legal expenses, court costs, etc.

Casualty and theft losses that do not affect student's or family's well-being

Moving expenses

## APPENDIX F

FOUR GOALS TO ESTIMATE AND MONITOR THE ADEQUACY OF  
STUDENT EXPENSE BUDGETS

1. Methods should be tailored to specific needs, addressing themselves only to items defined as allowable in the budgets, with information drawn directly from the markets within which students consume. This step serves to focus energy but if definitions are not well established, we suggest that this is the point to begin.
2. Whenever possible, several reliable cost indicators for each budget component should be provided for verification purposes. Items within the budget must be broken out and methods adapted to suit needs. In all cases total ranges of costs--high and low--are preferable to "average" figures, since not all students are able to live within "average" budget parameters.
3. Whenever possible, primary source information should be sought from suppliers and distributors of goods and services. Final estimates should be based on actual cost surveys whenever possible as gathering such information often leads the aid administrator to insights above and beyond cost figures. Government indices and other economic data should be used as secondary resources, unless no other alternatives exist.

4. The methods adopted should be convenient, efficient, and accurate, as there is seldom the luxury of free time for these purposes, nor do aid personnel usually have the statistical methodological background for use of more sophisticated techniques--dollars and cents estimates and percentage increases are sufficient.

(Bowman, 1975, p. 14)

## APPENDIX G

TABLE 36

## MONTHLY MEAN REPORTED SUBTOTAL BUDGET COMPONENTS

	N	Mean	Median	S.D.	Range
Rent	237	107.36	100.95	44.54	20.50 - 350.00
Room and Board	80	189.48	176.25	65.61	51.00 - 342.00
Food at Home	248	54.41	50.00	28.19	2.00 - 157.50
Food Away	341	19.61	18.41	12.49	.50 - 68.50
Telephone	281	16.95	12.48	17.52	.50 - 157.00
Electricity	173	10.81	9.50	17.52	.50 - 44.50
Water	28	3.68	3.05	3.22	.50 - 18.00
Garbage	29	2.83	1.03	1.77	1.00 - 13.00
Natural Gas	30	14.47	10.25	11.04	1.50 - 44.00
Cable TV	34	2.53	2.08	1.66	.50 - 7.50
Cleaning/Clothing	330	22.08	13.85	25.23	.50 - 178.50
Personal Care	326	9.28	7.10	7.51	.50 - 48.00
Textbooks	325	24.70	21.69	20.66	.50 - 204.50
Lab/Supplies	45	6.87	4.40	8.62	.50 - 46.50
Subscriptions	52	5.58	4.08	5.57	.50 - 31.50
Car Payments	18	104.11	100.50	173.00	1.00 - 450.00
Gasoline	258	17.93	13.75	16.60	.50 - 125.00
Car Maintenance	121	20.55	8.78	26.44	.50 - 133.00
Dues	119	15.90	12.46	13.63	.50 - 74.50
Charge Accounts	85	48.41	31.00	47.56	1.00 - 262.50
Insurances	18	17.11	10.25	20.39	1.00 - 83.00
Pet Care	28	7.39	5.25	7.75	.50 - 35.50
Medical/Dental	71	19.86	10.31	32.80	.50 - 186.00
Recreation	336	27.31	19.32	30.97	.50 - 350.00
Furniture	61	10.84	5.83	14.04	.50 - 65.50
Gifts & Contributions	303	14.52	10.61	15.14	.50 - 150.00
Fees	330	23.70	7.75	51.59	.50 - 462.50