INFORMATION TO USERS

This was produced from a copy of a document sent to us for microfilming. While the most advanced technological means to photograph and reproduce this document have been used, the quality is heavily dependent upon the quality of the material submitted.

The following explanation of techniques is provided to help you understand markings or notations which may appear on this reproduction.

1. The sign or "target" for pages apparently lacking from the document photographed is "Missing Page(s)". If it was possible to obtain the missing page(s) or section, they are spliced into the film along with adjacent pages. This may have necessitated cutting through an image and duplicating adjacent pages to assure you of complete continuity.

2. When an image on the film is obliterated with a round black mark it is an indication that the film inspector noticed either blurred copy because of movement during exposure, or duplicate copy. Unless we meant to delete copyrighted materials that should not have been filmed, you will find a good image of the page in the adjacent frame.

3. When a map, drawing or chart, etc., is part of the material being photographed the photographer has followed a definite method in "sectioning" the material. It is customary to begin filming at the upper left hand corner of a large sheet and to continue from left to right in equal sections with small overlaps. If necessary, sectioning is continued again—beginning below the first row and continuing on until complete.

4. For any illustrations that cannot be reproduced satisfactorily by xerography, photographic prints can be purchased at additional cost and tipped into your xerographic copy. Requests can be made to our Dissertations Customer Services Department.

5. Some pages in any document may have indistinct print. In all cases we have filmed the best available copy.

University Microfilms International

300 N. ZEEB ROAD, ANN ARBOR, MI 48106
18 BEDFORD ROW, LONDON WC1R 4EJ, ENGLAND

8106474

HUNTSBERGER, PAUL EUGENE

MID-LIFE UNDERGRADUATES AT MICHIGAN STATE UNIVERSITY: A STUDY OF CHARACTERISTICS, EDUCATIONAL MOTIVATIONS, NEEDS, AND SATISFACTION WITH UNIVERSITY SERVICES

Michigan State University PH.D. 1980

University
Microfilms
International 300 N. Zeeb Road, Ann Arbor, MI 48106

PLEASE NOTE:

In all cases this material has been filmed in the best possible way from the available copy. Problems encountered with this document have been identified here with a check mark ✓.

1. Glossy photographs _____
2. Colored illustrations _____
3. Photographs with dark background _____
4. Illustrations are poor copy _____
5. Print shows through as there is text on both sides of page _____
6. Indistinct, broken or small print on several pages ✓
7. Tightly bound copy with print lost in spine _____
8. Computer printout pages with indistinct print _____
9. Page(s) _____ lacking when material received, and not available from school or author
10. Page(s) _____ seem to be missing in numbering only as text follows
11. Poor carbon copy _____
12. Not original copy, several pages with blurred type _____
13. Appendix pages are poor copy _____
14. Original copy with light type _____
15. Curling and wrinkled pages _____
16. Other _____

University Microfilms International

300 N ZEEB RD., ANN ARBOR MI 48106 (313) 761-4700

MID-LIFE UNDERGRADUATES AT MICHIGAN STATE UNIVERSITY: A STUDY OF CHARACTERISTICS, EDUCATIONAL MOTIVATIONS, NEEDS, AND SATISFACTION WITH UNIVERSITY SERVICES

By

Paul Eugene Huntsberger

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Administration and Higher Education

1980

ABSTRACT

MID-LIFE UNDERGRADUATES AT MICHIGAN STATE UNIVERSITY: A STUDY OF CHARACTERISTICS, EDUCATIONAL MOTIVATIONS, NEEDS, AND SATISFACTION WITH UNIVERSITY SERVICES

By

Paul Eugene Huntsberger

Purposes

Michigan State undergraduates ages 30 through 49 were surveyed: 1) to identify and describe demographic characteristics, educational motivations, expressed pre-entry and post-entry academic and non-academic needs, and satisfaction in meeting those needs by using University services; 2) to determine the extent to which the variables of sex, age, and college impact on this group; 3) to determine the subdivision of this group by their educational motivations; and 4) to draw implications from the data for development or revision of University services.

Methodology

Data were gathered on 207 students using a questionnaire. Analytical procedures were: Demographic and need variables were reported by percentage distribution for the sample. Aggregate mean scores were calculated for educational motivation and satisfaction with services variables. A chi-square procedure determined whether the

independent variables of sex, age, and college were related significantly .10 to the demographic and need variables. An F-test analysis of variance procedure determined whether mean differences among educational motivations and satisfaction with services variables related significantly .10 to the independent variables of sex, age, and college. Finally, factor analysis arranged educational motivation factors into unidimensional orientations, and these were further analysed to form several educational motivation groups.

Results

The survey yielded extensive information on the sample's demographic characteristics, needs, use of University services, and educational motivations. Several important differences between males and females were identified. Also four major educational motivation groups were supported statistically: External Career Oriented, with strong career interests related to requirements of potential employers or professional associations; Exploration Oriented, with strong concerns for exploring academic and life goals; Career Improvement Oriented, with strong career interests related to improving skills and knowledge needed in present jobs; and Renewal Oriented, with strong concerns for improving outdated knowledge or skills as well as for preparing to enter or re-enter the labor market.

Conclusions

Major conclusions were: 1) At mid-life female and male Michigan State undergraduates differ in several important respects; 2) A minority of them expressed pre-entry and post-entry needs; 3) A significant proportion of the minority expressing needs chose not to satisfy these by using University services; 4) Their satisfaction with University services used was high except in the areas of financial aids, admissions, and counseling; 5) The Office of the Assistant Dean for Lifelong Education was highly, but almost exclusively, supportive of mid-life females; 6) Faculty and other staff assisted them with a wide variety of non-academic concerns, sometimes more so than personnel in other University service units; and 7) Analysing these students' educational motivations according to common demographic variables such as sex and age was confounding.

To Jennifer and Paul Trent
whose love, patience, and sacrifices were
my inspiration.

ACKNOWLEDGMENTS

I want to remember the contributions of Professor Russell J. Kleis, who advised me on this project until he died in November 1979. I am especially appreciative of Dr. Max Raines who generously assumed the chairmanship of the committee and guided me ably and compassionately to completion. I am also indebted to Dr. Sheldon Cherney for his timely words of encouragement and generous support; and to Dr. Kenneth Neff and Dr. August Benson for their crucial support.

I wish also to thank the staff of the Office of Research Consultation, especially David Solomon, who helped me with the statistical analysis of the data. I also thank the Department of Administration and Higher Education for their generous financial support for the computer analysis.

TABLE OF CONTENTS

	Page
LIST OF TABLES	vii
LIST OF FIGURES	ix
Chapter	
I. INTRODUCTION TO THE STUDY	1
Background	1
Statement of the Problem	3
Purposes	6
Research Questions	7
Procedures	7
Assumptions and Definitions	8
Delimitations	10
Limitations	10
Significance of Study	11
Summary and Overview	14
II. THE ADULT COLLEGE STUDENT: LITERATURE AND RESEARCH REVIEW	15
Introduction	15
Characteristics	18
Needs and Services	22
Educational Motivations	29
Summary	38
III. DESIGN OF THE STUDY	40
Data Collection Procedures	41
Questionnaire Design	41
Questionnaire Evaluation	44
Sample Selection and Questionnaire Administration	44
Data Analysis Procedures	45
Summary	50

Chapter		Page
IV.	REPORT AND ANALYSIS OF DATA	51
	Description of the Mid-life Sample	51
	Demographic Characteristics	51
	Educational Motivations	60
	Pre-entry and Post-entry Needs	67
	Pre-entry and Post-entry Service Use and Satisfaction	70
	Unsolicited Comments about University Services	74
	Analysis of Sample Data by the Variable of Sex	77
	Demographic Characteristics	77
	Educational Motivations	82
	Pre-entry and Post-entry Needs	84
	Pre-entry and Post-entry Service Use and Satisfaction	87
	Analysis of Sample Data by the Variable of Age	93
	Demographic Characteristics	93
	Educational Motivations	94
	Pre-entry and Post-entry Needs	99
	Pre-entry and Post-entry Service Use and Satisfaction	102
	Analysis of Sample Data by the Variable of College	102
	Demographic Characteristics	102
	Educational Motivations	106
	Pre-entry and Post-entry Needs	106
	Pre-entry and Post-entry Service Use and Satisfaction	108
	Analysis of Selected Sample Data by the Variable of Previous Degree	108
	Formation of Educational Motivation Groups by Factor Analysis	109
	Differences Among Educational Motivation Groups	110
	Description of Educational Motivation Groups	111
	Demographic Characteristics	111

Chapter Page

Pre-entry and Post-entry Needs 115
Pre-entry and Post-entry Service Use and Satisfaction 119

Summary 121

V. FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS . . 122

Introduction 122
Major Findings 123

Demographic Summary 123
Educational Motivation Summary 124
Needs and University Services Summary . . . 125
Differences in the Sample Summary 126
Educational Motivation Groups Summary . . . 129

Conclusions 130
Recommendations for Further Research 137
Epilogue 139

APPENDICES

APPENDIX

A. SAMPLE COVER LETTERS AND ADULT STUDENT SURVEY QUESTIONNAIRE 140

B. SUMMARY OF DATA NOT SIGNIFICANT WHEN ANALYSED BY THE VARIABLES OF SEX, AGE, AND COLLEGE . 148

C. DIFFERENCES BETWEEN SECOND BACHELOR'S AND MAIN SAMPLE ON SELECTED VARIABLES 153

D. EDUCATIONAL MOTIVATION GROUPS SATISFACTION RATINGS OF UNIVERSITY SERVICES USED 155

SELECTED BIBLIOGRAPHY 157

LIST OF TABLES

Table		Page
4.1	Academic characteristics of the mid-life sample	54
4.2	Socio-economic characteristics of the mid-life sample	58
4.3	Financial characteristics of the mid-life sample	59
4.4	Educational motivation factor mean scores of the mid-life sample	61
4.5	Educational motivation cluster mean scores of the mid-life sample	65
4.6	Pre-entry needs of the mid-life sample	68
4.7	Post-entry needs of the mid-life sample	70
4.8	Pre-entry satisfaction with University services of the mid-life sample	73
4.9	Post-entry satisfaction with University services of the mid-life sample	75
4.10	Demographic characteristics related significantly to the variable of sex	79
4.11	Educational motivation factors related significantly to the variable of sex	83
4.12	Educational motivation orientations related significantly to the variable of sex	85
4.13	Pre-entry and post-entry needs related significantly to the variable of sex	88
4.14	Pre-entry satisfaction with University services summarized by the variable of sex	91

Table		Page
4.15	Post-entry satisfaction with University services summarized by the variable of sex	92
4.16	Demographic characteristics related significantly to the variable of age	95
4.17	Educational motivation factors related significantly to the variable of age	98
4.18	Educational motivation orientations related significantly to the variable of age	100
4.19	Demographic characteristics related significantly to the variable of college	104
4.20	Educational motivation orientations related significantly to the variable of college	107
4.21	Educational motivation orientations of educational motivation groups	112
4.22	Selected demographic characteristics of educational motivation groups	116
4.23	Pre-entry and post-entry needs of educational motivation groups	120
A.1	Distribution of non-significant data by the variables of sex, age, and college	148
A.2	Differences between second bachelor's and main sample on selected variables	153
A.3	Educational motivation groups satisfaction ratings of University services used at pre-entry	155
A.4	Educational motivation groups satisfaction ratings of University services used at post-entry	156

LIST OF FIGURES

Figure		Page
1.1	Undergraduate adult enrollments since fall 1970	5
4.1	Educational motivation orientation mean ratings	66
4.2	Differences in educational motivation orientations by the variable of sex	86
4.3	Differences in educational motivation orientations by the variable of age	101
4.4	Differences in educational motivation orientation ratings of educational motivation groups	113

CHAPTER I

INTRODUCTION TO THE STUDY

Background

Many adults who delayed college, or left it, for commitments to work, to marriage and family, and to other "adult" responsibilities are now enrolling as undergraduates later in life. During the past decade adult undergraduate enrollments nationwide have increased from 750,000 in 1970 to 1,640,000 in 1977.[1]

The dramatic influx of older students in college promises to continue in the future. Because of rapid changes in life and work in our society, adults of necessity will seek more options in education throughout their lives. Moreover, because enrollments will decline in future if colleges and universities rely primarily upon recent high school graduates to fill their classrooms, numerous institutions are aggressively courting the older student.

---

[1]U. S. Bureau of the Census, Current Population Reports: Population Characteristics, Series P-20, No. 321, "Social and Economic Characteristics of Students (Advance Report), October 1977" (U. S. Government Publishing Office, Washington, D. C., March 1978), p. 6.

Students older than average are having an inevitable impact on the system of higher education. Even so, the institutional response to their presence on campus has been uneven. According to Schlaver,[1] "Colleges on the junior and senior level are by and large already coming to grips with the older student, but universities have, for many good reasons, been slower to respond."

In spite of previous responses, all post-secondary institutions attracting older students should be critically assessing their posture toward them. Issues to consider are: Should recruitment policies and practices be changed to attract both a larger and more diversified adult constituency? What unforseen consequences might result from further enlarging and diversifying the adult population? What subtle or blatant prejudices are institutionally directed against older students? And what should be done to change these? What resources of the institution can or should be expended especially for adults? What special academic and service needs do adults have? And which of these should the institution attempt to satisfy? What special form should the education provided adults take? What adjustments in curriculum, scheduling, degree

---

[1]David Edward Schlaver, The Uncommon School. The Adult Learner in the University (Bethesda, Md.: ERIC Document Reproduction Service, ED 145 755, 1977), p. i.

requirements, evaluation and the like should be considered? What institutional policies and practices related to admissions, registration, student life, and student services should be re-evaluated? For every institution, the resolution of these and many other similar issues related to adult students is a challenge.

Statement of the Problem

In 1973 in The Lifelong University: A Report to the President, Michigan State University affirmed its commitment to lifelong education. An increasingly heterogeneous non-traditional audience called for an assessment of the University's role and responsibility to it.[1] Thus the University found that it had a continuing need for comprehensive information about its various non-traditional students. Information about such things as demographic characteristics, needs, educational motivations, and use of student services could be used to develop and revise programs and services of importance to adults.

For a number of years, Michigan State University has attracted sizeable numbers of older undergraduates. The enrollment of these particular students increased substantially this past decade, growing from 1,595 in 1970

---

[1]Michigan State University, Task Force on Lifelong Education, The Lifelong University. A Report to the President (East Lansing: Michigan State University, 1973), pp. 24-25.

to 2354 in 1979.[1] Especially strong has been the enrollment of undergraduates 30 years old and over. This subgroup grew from 429 (26.9% of all adult students 25 years old and over) in 1970 to 764 (32.5%) in 1979. Thus the University has been attracting more adult undergraduates as well as older ones.

TABLE 1.1--Undergraduate adult enrollments since fall 1970

Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Total over age 25.....	1595	1928	2231	2001	2368	2420	2449	2481	2399	2354
Total age 30 or over.....	429	491	532	585	601	632	741	824	760	764
Percent of those age 30 or over.....	26.9	25.5	23.9	29.3	25.4	26.2	30.3	33.2	31.7	32.5

As it now stands, the University has limited information about its "older" undergraduates. The Office of the Registrar collects information only on the extent of their enrollment and their distribution by sex, class level and college. Mildred Erickson's study of adult undergraduates at Michigan State University provides a great

[1]Michigan State University, Office of Institutional Research, "Age Distribution of Headcount Enrollment, East Lansing Campus, Fall Term, 1968-1979"; Michigan State University, Office of the Registrar, "Student Age Distribution," Reports for Fall 1970 through Fall 1979.

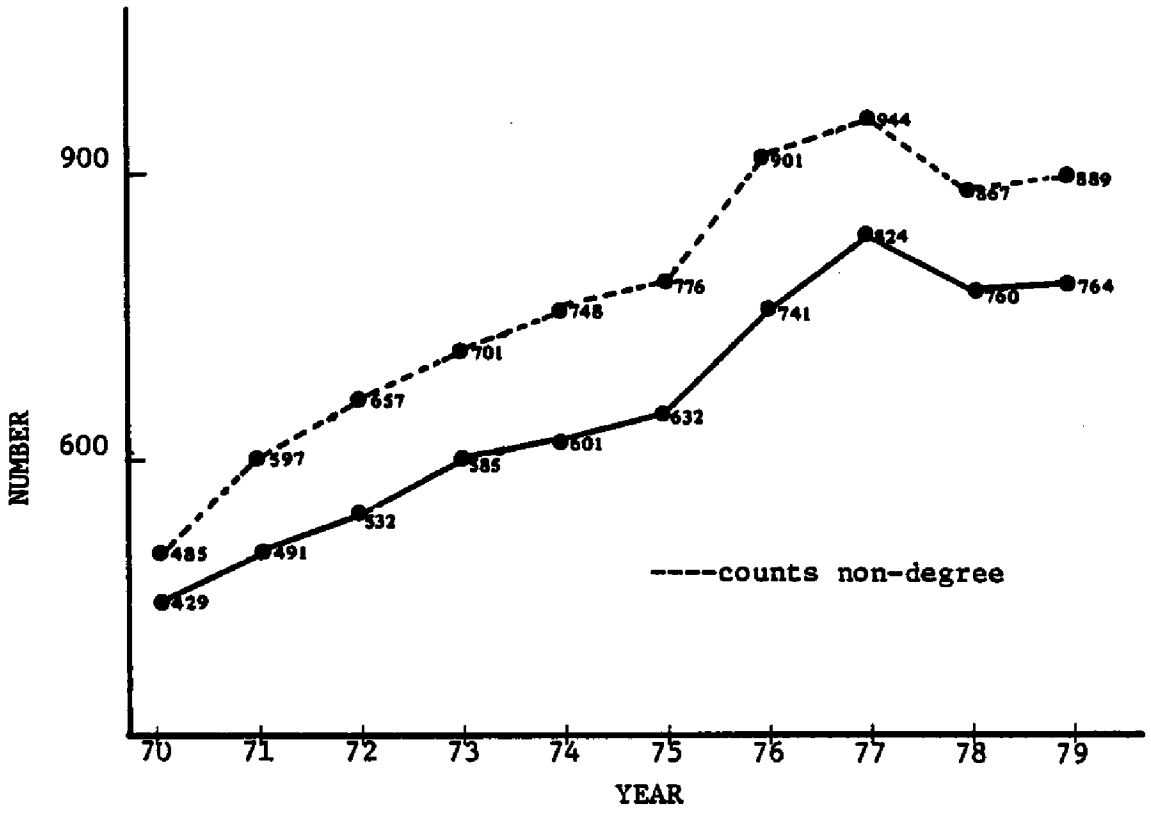

FIGURE 1.1--Undergraduate adult enrollments since fall 1970

deal of general information about characteristics, needs, and motivations. However, this study is dated, an important point because the adult population surveyed in 1966 was, on the whole, younger than that in 1979. Thus Erickson's findings tend to be more representative of adults under age 30. Peggy Hine's more recent study looked at adult learner needs at the University, but her findings tend to be more representative of graduate level adults.[1] In essence, extensive data on Michigan State University's "older" undergraduates' characteristics, needs, motivations, and use of University services are unavailable.

Purposes

This is a study of a group of "older" undergraduates at the University, namely those at mid-life in their thirties and forties. The purposes of this research have been:

1. To identify and describe the nature of a mid-life undergraduate group on a major land grant campus by gathering information about their demographic characteristics, educational motivations, expressed pre-entry and post-entry academic and non-academic needs, and satisfaction in meeting those needs by using University services;

---

[1]Mildred B. Erickson, "An Analysis of Selected Characteristics and Needs of Adult Undergraduate Students Attending Michigan State University Fall Term 1966," (Ph. D. dissertation, Michigan State University, 1968); Peggy A. Hine, "A Typology of Expressed Needs of Adult Students Prior to Entry and Following Two Terms of Study at Michigan State University During the 1974-75 Academic Year," (Ph. D. dissertation, Michigan State University, 1975).

2. To determine the extent to which the variables of sex, age, and major college impact on this group;

3. To determine the subdivision of this group by their educational motivations; and

4. To draw implications from the data for development or revision of University services.

Research Questions

The research questions to be addressed in this study are:

1. What are the major demographic characteristics of the mid-life sample?

2. What are the major educational motivations of the mid-life sample?

3. What selected pre-entry and post-entry needs for academic and non-academic assistance did the sample express, and to what extent were these needs satisfied by using University services?

4. What significant relationships or differences .10 occurred in the data when examined by the independent variables of sex, age, and college?

5. To what extent did the sample cluster according to educational motivations when examined by factor analysis? And in what ways did these educational motivation subgroups differ in their demographic characteristics, needs, and satisfaction with University services used?

Procedures

An initial sample of 350 undergraduates ages 30 through 49 was chosen randomly from a roster provided by the Office of Institutional Research. This sample was mailed a questionnaire designed to gather information that could be analysed to answer the research questions posed.

It was stratified by age and sex, however the return rate could not be controlled to retain representativeness on these variables. Two hundred and seventeen questionnaires were returned and 207 were retained for analysis. Sampling, questionnaire design, and statistical procedures are discussed in Chapter III.

Assumptions and Definitions

It was assumed in this research:

1. That data gathered on demographic characteristics, needs, educational motivations, and use of student services from a sample of adult undergraduates could be reviewed to draw implications for the development or revision of University services to better serve all adult students;
2. That mid-life occurs for adults generally between the ages of 30 and 49;
3. That mid-life undergraduates at this University are inherently different from mid-life graduates, and thus worthy of independent study; and
4. That mid-life undergraduates at this University are also inherently different from those undergraduates both younger and older, and thus worthy of independent study.

The following definitions were used:

Mid-life Adults--Any adults thirty through forty-nine years of age.

Undergraduates--Any students enrolled full-time or part-time in any academic program leading to the baccalaureate degree.

On-campus Students--Any students enrolled for classes

on the main campus of the University. Students enrolled for credit in off-campus extension programs are excluded.

University Services--Any of those service units or persons on campus designated to facilitate the entry, adjustment, and development of students.

Pre-entry--That period when persons are considering whether to enter or re-enter the University, or after they have decided, but before they actually have begun classes.

Post-entry--That period after persons have entered or re-entered the University and have begun classes.

Educational Motivation Factor--A statement that purports to describe an insolated reason that might have influenced adult students to decide to pursue a baccalaureate degree at the University.

Educational Motivation Orientation--A discrete clustering of educational motivation factors that correlate strongly (.60 or above) when subjected to R-factor analysis. Each cluster describes an underlying reason that might have influenced adult students to decide to pursue a baccalaureate degree at the University.

Educational Motivation Orientation Group--A discrete clustering of subjects using Q-factor analysis which groups individuals by similar educational motivation orientations.

Delimitations

This study was delimited by the researcher in the following ways: First, this investigation was limited to a sample of undergraduates ages 30 through 49 who enrolled the first week of Winter Term 1979 on the East Lansing campus of Michigan State University. Second, the pre-entry and post-entry needs investigated were pre-determined and selected from many ascribed to adult students in other research. No attempt was made to determine the totality of needs this group might have. Third, the educational motivation factors investigated were pre-determined and selected from the many factors ascribed to adult students in other research. No attempt was also made to determine the totality of educational motivations this group might have had. Finally, the University services rated by this sample were pre-determined and selected from many that exist on campus. There was no attempt, however, to identify all University services potentially used by adult students.

Limitations

This study was limited in the following ways:

First, although stratification by sex and age of the initial sample was attempted, it was necessary to make special efforts to include all potential subjects beyond age 44 in the final sample. Otherwise, this age cohort (those 44 to 49 years old accounted for only 6.3% of the population) would have been too small to do any extensive

statistical computation and analysis. As it was, those in their forties were overrepresented. This may limit generalizations of findings to the population at the University and, statistically, results cannot be generalized to mid-life undergraduates at other comparable institutions.

Second, the validity of educational motivation factors was limited by the students' recollection and knowledge of reasons that actually influenced their enrollment, and by their interpretation of item wording used in the questionnaire.

Third, the validity of the needs was limited by the students' recollection and knowledge of their actual needs, their understanding of the definition of pre-entry and post-entry, and their interpretation of item wording used in the questionnaire.

Finally, a limited number of needs and University services were surveyed. This limits generalizations about the needs of mid-life undergraduates at the University and about their use of and satisfaction with the totality of University services.

Significance of Study

This study was considered important for the following reasons:

First, this investigation of adult learners is timely. Undergraduates at the University have not been surveyed since 1966. Additionally, the focus is on adults

in their thirties and forties, an identifiable subgroup whose enrollment as undergraduates has increased substantially in recent years. Moreover, investigators in the social sciences and education are becoming increasingly concerned about research on the main adult years. This has been a period of neglect until recently, as researchers tended to concentrate their studies on early adulthood or the period of aging. But as the post-war baby boom generation swells the ranks of the middle years in America, this age period becomes more important.

Second, this investigation varied methodologically in its sampling. In previous research, the variables of age and class level were not controlled for. Therefore, these studies tended to generalize toward students from age 25 to 30, or those in graduate school. This neglected "older" undergraduates age 30 and above. The approach employed in this study allowed for gathering comprehensive and exclusive information on older, non-graduate students.

Third, this investigation applied factor analysis to educational motivations of older students in a traditional degree program. Although other studies have explored the educational motivations of adult college students, these were limited principally to checklists. None determined the range and strength of educational motivations by using factor analysis with older students enrolled in regular undergraduate programs.

Fourth, this investigation further applied factor analysis to identify subgroups according to similar patterns of educational motivations. This has been attempted somewhat with students in non-traditional programs, but not with those in traditional ones. No one has ever attempted to determine whether older students at this University can be subgrouped by their educational motivations.

Fifth, this study attempted to refine previous research that identified career motivations of adult learners. Career motivation typically has been a catchall for such aspects of career interest as improvement, change, entry, and re-entry. These were specified as separate and distinct career orientation subgroupings to better identify the range, variety, and subtlety of career motivations influencing older adult undergraduates.

Finally, this study has the potential of yielding comprehensive information on a group seldom studied. Moreover, this information should be useful to the University. For example, demographic data should identify the type of older student now attracted to undergraduate programs, with implications for future recruitment and retention. That on motivations should have implications for the assessment of undergraduate academic programming and advising. That on needs and satisfaction with University services should assess the quantity and quality of

one adult group's involvement with these, with implications for future development and revision of service efforts on behalf of adult learners at the University.

Summary and Overview

Chapter I introduced the topic of the study, the mid-life undergraduate at Michigan State University. Recent enrollment trends of older students were briefly reviewed and the importance of studying the mid-life group independently was discussed. The framework of the study was outlined and the major research questions previewed and summarized.

A review of research about adult college students, with emphasis on studies of characteristics, needs and services, and educational motivations will be presented in Chapter II. Chapter III will be devoted to a description of the sample, data collection and analysis procedures, and the general design of the study. Chapter IV will report the resultant data to answer the research questions posed previously. Finally, a summary of the findings, implications for the University, and recommendations for further research will be presented in Chapter V.

CHAPTER II

THE ADULT COLLEGE STUDENT: A LITERATURE AND RESEARCH REVIEW

Introduction

The adult student has been a popular subject of research and writing these past two decades. Many articles, monographs, and books have focused on the adult learner. More than 60 dissertations completed since 1960 have studied "adult," "older," "mature," and "non-traditional" college students. More than 150 documents in ERIC have involved the adult college student.

A drawback in reviewing the adult student literature and research was the inconsistency in defining adulthood by age. Sometimes adults were defined as anybody over age 21; other times as anybody over age 25 or 26. "Older" adult was defined variously as those over age 25, over age 30, over age 35, over age 55, and over age 59. These inconsistencies confound attempts to generalize about adult students from the literature and research.

When writing about adult students, authors have addressed such current topics as: 1) the trend for participation in higher education to spread out along the

adult life span;[1] 2) the issue of how post-secondary institutions will respond to older students on campus;[2] 3) the issue whether adults require services or programs different from those provided traditional students;[3] 4) the issue whether university policies, or attitudes of faculty and other staff, are prejudiced against non-traditional students;[4] and 5) the hope that educators will re-examine assumptions and misconceptions about the homogeneity of adult students.[5]

In research studies, investigators have commonly sought to identify and describe adult students' characteristics and needs. Recently, they have increasingly been

---

[1]For example, J. E. Burkett, "Higher Education's Growing Edge," Educational Record 58 (Summer 1977): 259-269; Dyckman Vermilye, ed., Lifelong Learners: A New Clientele for Higher Education (San Francisco: Jossey-Bass Pub., 1974).

[2]For example, American Council on Education: Committee on Adult Higher Education, Education and the Adult Student. Special Report (Washington, D. C.: American Council on Education, 1972); Donald G. Trites, ed., "Planning for the Future of the Undergraduate College," New Directions for Higher Education (Spring 1975).

[3]For example, Janet S. Hansen, "Adults and Higher Education," Occasional Paper No. 5, Claremont, California: Claremont Institute for Administrative Studies, 1976.

[4]For example, David E. Schlaver, The Uncommon School: The Adult Learner in the University (Bethesda, Md.: ERIC Document Reproduction Service, ED 145 755, 1977).

[5]For example, Russell Edgerton, "Education, Work and FIPSE," in Dyckman Vermilye, ed., Relating Work and Education (San Francisco: Jossey-Bass Pub., 1977), p. 116.

assessing the utilization of university services by adult students. Less frequently studied topics have been: reading strategies, self-images, cognitive styles, preferred teaching methods, perceptions, attitudes, values, aspirations, orientations, motivations, academic adjustment, academic achievement, and faculty attitudes toward older students.

Studies have frequently been limited to adult subgroups. Commonly, women have had their characteristics, unique needs, service requirements, reasons for returning to college, attitudes, satisfaction with the collegiate environment, and developmental tasks examined. Males, on the other hand, have received little attention, except for Schlossberg's study in the mid-sixties.[1] Other subgroups studied particularly have been graduate students, part-time students, veterans, commuters, persisters and dropouts, and the physically handicapped.

Some studies have examined between group differences, such as traditional aged students versus older ones, and traditional day students versus external degree program ones. Few studies have attempted to determine whether older college students, as a group, are homogeneous across the life cycle.

---

[1]Nancy K. Schlossberg, Men In Transition: A Study of Adult Male Undergraduates at Wayne State University (Bethesda, Md.: ERIC Document Reproduction Service, ED 010 690, 1967).

A majority of research studies have been conducted at community colleges. Most other ones were conducted at four year private or public institutions. Only a few studied adults in special programs for adults.

The major focus of this review will be those studies that appeared relevant to this study. Therefore, research about adult college students' characteristics; needs and student services use, and educational motivations, with special attention to undergraduates in regular academic programs, will be examined.

Characteristics

National data about adult college students were found readily in annual Census Bureau reports.[1] However, because of differences in data classification, valid comparisons with adult students at Michigan State University would be strained.

The national data were limited traditionally to students ages 14 to 34 years old until 1972. The Census now reports on those 35 years old and over. Young, summarizing several outstanding characteristics of the over-35 student, indicated that slightly more women than males enrolled in college, most were enrolled part-time, a

---

[1] U. S. Bureau of the Census, Current Population Reports: Population Characteristics, Series P-20 (U. S. Govt. Printing Office, Washington, D. C.).

large majority were in the labor force or looking for work, and nearly three-quarters were married.[1]

Some recent demographic trends identified by the Census Bureau are: adult college student part-time enrollment has increased, more women over age 22 have enrolled, and enrollment of those 25 to 34 years old has increased.[2]

Data compiled regularly since 1967 at Michigan State University show that increasing numbers of older students have been enrolling, that they enroll most often in the College of Social Science, and that the number of female students increases with age.[3]

Some documentation of adult student characteristics at various institutions is available from ERIC. For example,

---

[1]Anne M. Young, "Going Back to School at 35," Monthly Labor Review (October 1973): 39-41.

[2]U. S. Bureau of the Census, Current Population Characteristics, Series P-20, No. 321, "Social and Economic Characteristics of Students (Advance Report), October 1977" (U. S. Government Printing Office, Washington, D. C., March 1978), p. 6.

[3]Michigan State University, Office of the Registrar, "Student Age Distribution," Reports for Fall 1970 through Fall 1979.

Laurie surveyed students over 25 years old at the University of North Carolina at Charlotte; De Wolf and Lunneborg profiled over-35 undergraduates at the University of Washington; and Lenning and Hanson studied males and females of various ages at a community college.[1]

Several dissertations completed since 1965 have described and analysed various adult college student groups. For example, Erickson described personal, family, educational and vocational characteristics of over-26 undergraduates at Michigan State University; Barney examined sex differences of undergraduates ages 24 and older at the University of Oklahoma; Baker surveyed mature women undergraduates at three public universities in Florida to analyse characteristics of three age cohorts: 25 to 34 years, 35 to 44 years, and 45 plus years; Williams investigated a mixed group of undergraduates (ages 25 and above) and graduates (ages 35 and above); and Tauscher

---

[1]Joan Laurie, Needs and Social Characteristics of the Re-entered Student (Bethesda, Md.: ERIC Document Reproduction Service, ED 160 909, 1977); V. De Wolf and P. W. Lunneborg, Descriptive Information on Over-35 Undergraduate Students (Bethesda, Md.: ERIC Document Reproduction Service, ED 072 745, 1972); O. T. Lenning and G. R. Hanson, Differences in Characteristics and Outlooks of Men and Women College Students at Various Age Levels (Bethesda, Md.: ERIC Document Reproduction Service, ED 078 840, 1973).

compared the characteristics of older undergraduates with younger ones at the University of Wisconsin-Milwaukee.[1]

Commonly, these studies have had the purpose of drawing attention to the presence of adults on particular campuses. Usually sought was information on age, sex, marital status, dependents, income, employment, education, and level of enrollment. Generally, adult college students have tended to be married, to have children, to be employed, to have attended more than one institution (especially a community college), to be enrolled part-time, to have been out of school an extensive time, and to have used personal or family funds for financing college. Females more than males tended to be older and attending part-time, while males more often tended to be employed. Older adults more than younger ones tended to be married, to have more

---

[1]Mildred B. Erickson, "An Analysis of Selected Characteristics and Needs of Adult Undergraduate Students Attending Michigan State University Fall Term 1966," (Ph. D. dissertation, Michigan State University, 1968); Anna Sue Barney, "Characteristics and Educational Needs of Adult Undergraduate Students at the University of Oklahoma," (Ph. D. dissertation, University of Oklahoma, 1972); Louise D. Baker, "Characteristics, Needs, Motivations, and Perceptions of Mature Women Undergraduate Students in Three Public Four-Year Universities in Florida," (Ph. D. dissertation, Florida State University, 1977); Ellen U. Williams, "Non-traditional Aged Students: Characteristics and Needs of Adults Enrolled in the University," (Ph. D. dissertation, Bowling Green State University, 1977); Mary R. Tauscher, "A Comparative Study of Selected Characteristics and Perceived Needs, Interests and Goals of Older and Younger Students Enrolled in Undergraduate Degree Programs at the University of Wisconsin-Milwaukee," (Ph. D. dissertation, University of Wisconsin-Milwaukee, 1977).

education, and to have had better jobs or more work experience. Such generalizations are limited, however, because of wide variance in the age, sex, and level of enrollment of the subjects of these studies.

Needs and Services

Before 1965 few wrote about the needs of adult college students. Ferguson was one of the first to point out that older students may bring backgrounds, experiences, and needs into the college environment different from those of younger students.[1] Lately studies of adult needs have proliferated. Several authors have suggested that older students have needs requiring new kinds of student services. Bryant, who surveyed administrative and faculty attitudes toward older undergraduates at three Texas universities, concluded that while they agreed that the needs of older students differ from younger ones, they disagreed on how universities should prepare to handle these differences.[2]

Studies of the needs of adult women have proliferated. For example, Kelman and Staley researched women

---

[1]M. A. Ferguson, "Adult Students in an Undergraduate University," Journal of College Student Personnel 7 (1966): 345-348.

[2]Barbara Jean Bryant, "The Effect of Faculty and Administrative Attitudes Towards Students Over Twenty-five Years of Age on the Policies and Programs of Selected Universities in Texas," (Ph. D. dissertation, Texas A. and M. University, 1977), abstract.

ages 21 to 57 at Colorado State University; Hunt married women at Lansing Community College (Michigan); and Espersson mature women returning to a liberal arts college for adults.[1] Again, men have been neglected in studies of needs.

The investigation of the needs of adult students has been approached from multiple perspectives. Richards examined women's psychological and practical needs upon re-entry to a community college; Mahone compared mature and traditional aged women at a major land grant university to determine differences in self-perceived support needs; Baker examined whether women felt that the universities in her Florida study were being responsive to the needs of mature women; Skelhorne investigated the facilities and services at the University of Toronto to determine how well the institution was meeting the needs of its mature full-time undergraduate women; Kasworm compared traditional and older students at the University of Georgia to look at intellectual and social-emotional factors and perceived

---

[1]Eugenia Kelman and Bonnie Staley, The Returning Women Student: Needs of an Important Minority Group on College Campuses (Bethesda, Md.: ERIC Document Reproduction Service, ED 103 747, 1975); Beverly Hunt, "Characteristics, Perceptions and Experiences of Married Women Students at Lansing Community College," (Ph. D. dissertation, Michigan State University, 1965); Margaretha Anna Espersson, "The Mature Women Student Returning to Higher Education in a Liberal Arts College for Adults," (Ph. D. dissertation, Columbia University, 1975).

need for, usage of, and satisfaction with academic support services; Erickson attempted to identify needs of over-25 undergraduates at Michigan State University; and Hine studied over-25 graduates and undergraduates at Michigan State University to determine whether their needs altered over time from pre-entry to two terms later.[1]

Among the many needs ascribed to adult students, none have been established as clearly unique to adult college students. The following, however, were consistently reported as important to them:

Pre-admission support and initial registration orientation: The Task Force on Lifelong Education at Michigan State University recommended that adult students be provided a separate orientation program to attempt

---

[1]Lillian S. Richards, "Women's Perception of their Psychological and Practical Needs Upon Re-entry to a Community College: Implications for Restructuring the Learning Environment," (Ed. D. practicum, Nova University, 1976); Denise Felica Mahone, "An Assessment of Supportive Needs of Mature and Traditional Aged Women Students at The Ohio State University," (Ph. D. dissertation, The Ohio State University, 1977); Baker, "Mature Women Undergraduates in Florida"; Jean M. Skelhorne, The Adult Learner in the University: Does Anybody Care? (Toronto: Ontario Institute for Studies in Education, Department of Adult Education, 1975); Carol Edith Kasworm, "Undergraduate Support Services at the University of Georgia: A Comparison of the Needs of the Older and Younger Student," (Ed. D. dissertation, University of Georgia, 1977); Erickson, "Undergraduates at MSU"; Peggy Hine, "A Typology of Expressed Needs of Adult Students Prior to Entry and Following Two Terms of Study at Michigan State University During the 1974-75 Academic Year," (Ph. D. dissertation, Michigan State University, 1975).

to acclimate and inform them of the full range of university programs and activities.[1] Research studies indicate that adult students need special assistance to decide to enter the university and to get started properly once admitted. Erickson concluded that adult undergraduates at Michigan State University needed pre-admission academic counseling and advisement.[2] Kasworm found that adult students at the University of Georgia have unique questions and issues that warrant special orientation before registration.[3]

Academic advisement: The adult student appears to consider academic advisement of prime importance, although Kasworm showed that this need was significant for both younger and older students. Kasworm concluded that academic advisors can be crucial links between individuals and institutions, because they provide the majority of counseling and advising to older students.[4] Geisler and

---

[1]Michigan State University, Task Force on Lifelong Education, The Lifelong University. Report to the President (East Lansing: Michigan State University, 1973), pp. 19-20.

[2]Mildred B. Erickson, Counseling Needs of Adult Students (Bethesda, Md.: ERIC Document Reproduction Service, ED 039 569, 1970), pp. 4-5.

[3]Carol E. Kasworm, "Student Personnel Professionals as Continuing Educators," unpublished text of speech presented at the American College Personnel Association Conference, Detroit, Michigan, March 1978, p. 7.

[4]Ibid.

Thrush found that returning women students used advisors more than they did specialized services established for guidance and counseling.[1]

Career and placement assistance: Kasworm found that older students had a need for greater access to, and showed greater use of, career/vocational and job placement service than younger students.[2] Stewart, referring to university extension students in credit programs, concluded that those 20 to 34 years of age needed assistance with career planning and more information on careers than those 35 years of age and above.[3] Several other studies found a high interest in career planning and placement. Mahone concluded that more mature women students than traditional aged ones 1) were not satisfied with their present career choice, 2) were interested in obtaining vocational and career counseling, and 3) needed assistance locating vocational and career counseling service.[4]

---

[1]M. P. Geisler and R. S. Thrush, "Counseling Experiences and Needs of Older Women Students," Journal of the National Association for Women Deans, Administrators and Counselors 39 (1975): 3-8.

[2]Kasworm, "Student Personnel Professionals," p. 8.

[3]John Clarence Stewart, "The Urgency of Need for Counseling Services of University Extension Adult Students," (Ph. D. dissertation, Arizona State University, 1976), abstract.

[4]Mahone, "Women Students at The Ohio State University," abstract.

Financial aid: Obtaining financial aid has been difficult traditionally for older students, especially those who attend part-time or are women.[1] Erickson found a strong interest among adult undergraduates for gaining scholarships and financial aid.[2] Mahone found that mature women, especially those part-time, should be provided greater access to financial assistance.[3]

Other important needs frequently mentioned in the studies reviewed were:

Child care assistance: This was especially prevalent in studies of women. Geisler and Thrush found that a quarter of the women in their study could not have returned to college without dependable day care.[4]

Flexible scheduling: Especially needed was convenient class time and advising appointments for those who work or have family responsibilities.

---

[1]Joseph A. Califano, Jr., and Mary F. Berry, Lifelong Learning and Public Policy: A Report Prepared by the Lifelong Learning Project, February 1978 (U. S. Govt. Printing Office, Washington, D. C., 1978), pp. 41-47.

[2]Erickson, "Counseling Needs," p. 4.

[3]Mahone, "Women Students at The Ohio State University," abstract.

[4]Geisler and Thrush, "Needs of Older Women Students," pp. 3-8.

Skill development: Important was assistance with reading, studying, and library skill development.

An adult center or contact: This included the need for staff designated as the adult contact on campus and academic programs, student services, and special facilities organized for adults only.

Information: This included the need to be receiving the same information received by traditional students.

Sensitivity: This included understanding and consideration of the adult's special circumstances, especially from faculty and university personnel.

Needs cited less frequently, but not necessarily less important, were: 1) personal counseling, 2) academic credit for life and work experience, 3) elimination of some academic requirements such as physical education, 4) extra time, and 5) convenient on-campus parking.

Finally, specific to Michigan State University, Erickson identified these major needs: 1) pre-admission academic counseling and advisement, 2) continuous academic counseling and advising, 3) an adult center, 4) scholarships and financial aid, 5) advisement and possibly registration by telephone, 6) special assistance with University procedures, 7) more information in catalogs and schedule books, and 8) opportunity for a testing program.[1] Hine

---

[1]Erickson, "Undergraduates at MSU," p. 152; Erickson, "Counseling Needs," p. 4.

identified no new needs among both graduate and undergraduate students in a later study, but she did conclude that those previously identified were still not being met by the University.[1]

Educational Motivations

Since 1960 educational motivation research has flourished. Much recent work has stemmed from Houle's three-factor typology based on interviews with 22 continuing education students. Houle characterized adult participants in continuing education as goal oriented--using education to achieve clear objectives; activity oriented--using education for reasons divorced from the academic content; and learning oriented--using education to seek knowledge for its own sake.[2] Subsequent studies, such as the national survey of Johnstone and Rivera,[3] identified numerous educational motivations using short checklists. More typically now, researchers have been identifying these motivations using factor analysis.

---

[1]Hine, "Typology of Needs," p. 128.

[2]Cyril Houle, The Inquiring Mind (Madison: University of Wisconsin Press, 1961).

[3]J. W. C. Johnstone and R. J. Rivera, Volunteers for Learning (Chicago: Aldine Publishing Co., 1965).

Much of the early research using factor analysis had the purpose of examining Houle's typology to refine or expand it. Meaningful factors obtained by researchers ranged from 3 to 8. For example, Sheffield surveyed adults at continuing education conferences, using 58 reasons adults say they participated in educational activities. He postulated five orientations: 1) learning--seeking knowledge for its own sake; 2) desire-activity--finding interpersonal or social meaning divorced from academic content; 3) personal-goal--accomplishing fairly clear-cut personal objectives; 4) societal-goal--accomplishing clear-cut social or community objectives; and 5) need-activity--gaining introspective or intrapersonal meaning divorced from academic content.[1] Burgess postulated seven orientations: 1) desire to know, 2) desire to reach a personal goal, 3) desire to reach a social goal, 4) desire to reach a religious goal, 5) desire to escape, 6) desire to participate in activities, and 7) desire to comply with formal requirements.[2] Boshier,

---

[1]S. B. Sheffield, "The Orientation of Adult Continuing Learners," (Ph. D. dissertation, University of Chicago, 1962).

[2]Paul Burgess, "Educational Orientations of Adult Participants in Group Educational Activities," (Ph. D. dissertation, University of Chicago, 1971).

applying Houle's typology to New Zealand adults, concluded that adult educational participation results from motives more complex than identified by Houle. However, Boshier later claimed that no researcher has clearly accepted or refuted Houle's classical typology.[1]

Researchers using factor analysis have developed several instruments. Three with claimed psychometric properties have been used most often: Boshier's Educational Participation Scale (EPS), Burgess's Reasons for Educational Participation Scale, and Sheffield's Continuing Learning Orientation Index. Boshier's EPS contains factors which, according to him, seem to remain stable over time and space. These he calls: 1) Escape/Stimulation, 2) Social Welfare, 3) Social Contact, 4) Professional Advancement, 5) Cognitive Interest, and 6) External Expectations.[2]

Although using factor analysis has proven useful in identifying and explaining adults' complex educational motivations, it also has its limits. Boshier has cautioned

---

[1]Roger Boshier, "Motivational Orientation of Adult Education Participants: A Factor Analytic Exploration of Houle's Typology," Adult Education 21 (1971): 3-26; Roger Boshier, "Factor Analysts at Large: A Critical Review of the Motivational Orientation Literature," Adult Education 27 (1976): 41-43.

[2]Boshier, "Factor Analysts at Large," p. 25; Roger Boshier and Gail Riddell, "Education Participation Scale Factor Structure for Older Adults," Adult Education 28 (1978): 165.

1) that divergent orientation types can stem from the use of different criteria for generating factor matrices and factor scores, such as factor scoring, item content, scaling, and reliability of instrument; 2) that since factor analysis output, a function of input, simply reveals structure in a correlation matrix, these factors are tentative and should not be attributed to reality; and 3) that clusters can occur even when few people checked the items, so that factor scoring is required to indicate the extent to which an orientation is related to educational participation.[1]

In essence, according to Cross and Zusman, all adult educational motivation research points to 6 basic motivations: First, is the desire to achieve practical personal goals, such as getting a new job, advancing in a current one, or improving socio-economic status. Second, is the desire to achieve personal satisfaction and attain other inner-directed personal goals, such as self-development and family well-being. Third, is the desire to gain new knowledge, including the desire to learn for its own sake. Fourth, is the desire to achieve formal educational goals, such as obtaining degrees, certificates, and licenses. Fifth, is the desire to

---

[1]Boshier, "Factor Analysts at Large," pp. 24-47.

socialize with others or escape from everyday routine. Sixth, is the desire to achieve societal goals, such as contributing to the betterment of the community.[1]

Among those motivations influencing adult educational participation, one of the strongest is the desire to fulfill career objectives. For example, Ferguson found that one-half her subjects listed work improvement as the chief reason for resuming a college education.[2] Hiltunen concluded that work related reasons predominated in a group of adult freshmen, but also noted that males focused more exclusively on occupational motivation while females combined intellectual and occupational motives.[3] Even though career and vocational orientations are strong, Parelius contends that educators attach overly great importance to vocationalism. She notes that all motivational studies employing factor analysis have pointed to equally important non-vocational motivations.[4]

---

[1]K. Patricia Cross and Ami Zusman, The Needs of Non-traditional Learners and the Responses of Non-traditional Programs (Bethesda, Md.: ERIC Document Reproduction Service, ED 150 900, 1977), pp. 77-78.

[2]Ferguson, "Adult Students," pp. 345-348.

[3]W. A. Hiltunen, "Adults as College Freshmen," Journal of College Personnel 6 (1965): 208-211.

[4]Anne P. Parelius, "Age Inequality in Educational Opportunity: The Needs of Adult Students in Higher Education," Adult Education 29 (1979): 182-183.

The first factor analysis research categorized and described reasons adults participate in educational activities. Not examined was how different groups of adults compare on motivational dimensions. Although other kinds of studies, such as Johnstone and Rivera and Carp, Peterson and Roelfs,[1] reported on group differences by sex, age and socio-economic status, they employed checklists of reasons that tended to limit statistical correlation of important interrelationships.

Recently some researchers linked motivations with socio-economic factors by factor analysis. Grabowski identified the existence and nature of motivations of adults enrolled in a self-study bachelor's degree program. He found seven motivational clusters: 1) the desire to know, 2) the desire to reach a personal goal, 3) the desire to take part in social activities, 4) the desire to reach a social goal, 5) the desire to escape, 6) the desire to study alone, and 7) the desire for intellectual security. He related these to characteristics such as sex, age, marital status, level of income, kind of employment, and previous college experience. He reported that men and women differed, with women showing a greater tendency than men to enroll because of the desire to know

---

[1]Johnstone and Rivera, Volunteers for Learning; A. Carp, R. Petersen, and P. Roelfs, "Adult Learning Interests and Experiences," in Planning Non-traditional Programs, edited by K. Patricia Cross, John Valley and Associates (San Francisco: Jossey-Bass Pub., 1974), pp.41-52.

and the desire to study alone. Age groups differed, with younger respondents having a tendency to enroll for the desire to reach a personal goal.[1] Boshier, on the other hand, attempted to explain learner motivations by describing psychological concomitants and antecedents of life-space and life-chance motivation. He proposed a deficiency/growth model that explains some of the psychological foundations of adult learner motivations. He confirmed that important variables such as age and socio-economic status can be related to expressed educational motivation orientations.[2]

Morstain and Smart challenged typical methods of constructing groups a priori by demographic variables and then asking whether these groups differed in their educational motivations. They restructured their research to ask the new question: Can adult learner groups be identified on the basis of having generally similar motivational profiles? If so, do these motivational groups have distinguishing demographic features?

---

[1]Stanley M. Grabowski, "Motivational Factors of Adult Learners in a Directed Self-study Bachelor's Degree Program," (Ph. D. dissertation, Syracuse University, 1972), abstract.

[2]Roger Boshier, "Motivational Orientations Revisited: Lifespace Motivation and the Educational Participation Scale," Adult Education 27 (1977): 89-115.

Morstain and Smart, sampling students enrolled for part-time credit work in evening classes, statistically derived 5 learner groups: 1) Non-directed--having no compelling motivation or no specific goals or purposes; 2) Social--having interest in social interaction or personal association; 3) Stimulation Seeking--having interest in escaping from routine or involving themselves in stimulating activities; 4) Career Oriented--having interest in fulfilling job related needs; and 5) Life Change Oriented--having interest in improving several personal aspects of their lives. They found that males more than females were career oriented and life change oriented, and females more non-directed and social oriented.[1]

Among the many studies of educational motivations, few have examined the adult in regular college programs. All typologies and motivational factors have been developed from research with adults in evening colleges, conferences, extension programs, external degree programs, and other kinds of continuing education. Various student typologies and subcultures have been proposed for traditional aged

---

[1]Barry R. Morstain and John C. Smart, "Reasons for Participation in Adult Education Courses: A Multivariate Analysis of Group Differences," Adult Education 24 (1974): 83-98; Barry R. Morstain and John C. Smart, "A Motivational Typology of Adult Learners," Journal of Higher Education 48 (November/December 1977): 668-675.

students,[1] but not for adults in traditional graduate or undergraduate programs.

This does not mean that the educational motivations of adult college students have been ignored. On the contrary, many researchers have examined motivations. Schlossberg studied undergraduate males and produced a rank order of motivators and deterrents that affected their decisions to return to college. Job factors--as motivators or deterrents--predominated.[2] Erickson used a checklist to rank order reasons undergraduate adults expressed for deciding to enter or re-enter Michigan State University. She concluded that males were slightly more utilitarian, whereas females placed greater emphasis on intellectual stimulation.[3] Durchholz and O'Connor determined what was going on in the lives of over-25 female undergraduates that prompted them to become students. They found that life situations--death of a spouse, a divorce, financial

---

[1]For example, B. Clark and M. Trow, "The Organizational Context," College Peer Groups: Problems and Prospects for Research, edited by T. Newcomb and C. K. Wilson (Chicago: Aldine Publishing Co., 1966), pp. 17-70; T. M. Newcomb, et al., Persistence and Change: Bennington College and Its Students After Twenty-four Years (New York: Wiley Publishing Co., 1967).

[2]Nancy K. Schlossberg, "Adult Men: Education or Re-education," Vocational Guidance Quarterly 19 (September 1970): 36-39.

[3]Erickson, "Undergraduates at MSU," p. 169.

problems, and identity crises--were important motivating forces in these students' lives.[1] Rawlins found that mature women students were more likely than traditional ones to be preparing for future jobs or self-enrichment.[2] Mathews, studying the relationship between educational goals orientation and selected status characteristics, a priori established these goals as predominantly work or knowledge oriented, or a combination of both. She found the only relationship was between work orientation and work status.[3] Importantly, none of these studies employed factor analysis. Moreover, none were found that used factor analysis to examine adult undergraduates' educational motivations.

Summary

Chapter III has selectively reviewed the research and writing about adult college students, especially with reference to characteristics, needs and services, and

---

[1]Pat Durchholz and Janet O'Connor, "Why Women Go Back to College," Change 5 (October 1973): 52, 62.

[2]Melanie E. Rawlins, "The Needs Identified by Over-Thirty Undergraduate Students Concerning their Experiences of Returning to College," (Ph. D. dissertation, University of Nebraska, 1977), abstract.

[3]Marion Ellen Mathews, "Educational Goals Orientations Related to Selected Status Characteristics of Adult Students at Wichita State University," (Ph. D. dissertation, The American University, 1976), abstract.

educational motivations. It was found that the characteristics of many adult students have been surveyed, but generalizations are tenuous because of variance in age, sex, level of enrollment, and institutional setting. Research related to needs and services confirmed the importance of pre-admission and initial registration support, for continuous academic advising, for career assistance, and for financial aid. These and other expressed needs of adult students may vary according to sex and age differences, but the research is inconclusive. Research related to educational motivations confirmed that although adult learner motivations are complex, about six basic motivations are identifiable. These motivations can be related to socio-economic and psychological variables. Although the educational motivation research has been extensive, the examination of the educational motivations of older students in traditional undergraduate programs has been neglected.

CHAPTER III

DESIGN OF THE STUDY

Introduction

A principal purpose of this study was to identify and describe a sample of mid-life undergraduates' demographic characteristics, educational motivations, self-expressed pre-entry and post-entry academic and non-academic needs, and satisfaction in meeting those needs by using University services. Other purposes were to determine the extent to which the variables of sex, age, and college impacted on this group, and the extent to which the group could be subdivided by their educational motivations. A final purpose was to draw implications from the data for development or revision of University services. Consequently, the following data collection and analysis procedures were implemented.

Data Collection Procedures

After considering other alternatives, the investigator decided to conduct a questionnaire survey, the method considered most effective for gathering data comprehensively and analysing it statistically.

Questionnaire design:[1] To address the purposes of the study and to answer the research questions posed in Chapter I, The Adult Student Survey Questionnaire was constructed. Items were formulated as follows:

1) Demographic Variables: Eighteen questions were designed to determine demographic characteristics according to the variables of age, sex, residency, academic background, socio-economic status, and financial status. Academic background consisted of class level, credit load, previous college attendance, age of first enrollment in college, and period stopped attending college. Socio-economic status consisted of marital status, number and kind of financial dependents, occupations, and hours worked in regular and temporary jobs, at home, or as volunteers. Financial status consisted of annual cost and pay foregone to attend college, and number and kind of financial support sources used to attend college. Residency consisted of location of residence and distance commuted to classes one way daily.

2) Educational Motivation Variables: A special scale to measure educational motivations was developed.

---

[1]References consulted were: Donald Corlich, Designing Sensible Surveys (Pleasantville, New York: Redgrave Publishing Co., 1978); Steven Isaac, in collaboration with William B. Michael, Handbook in Research and Evaluation: A Collection of Principles, Methods, and Strategies Useful in the Planning, Design, and Evaluation of Studies in Education And the Behavioral Sciences (San Diego: Edits Pubs., 1978).

It consisted of 35 items. Some duplicated, or were adaptations of, items used in previous research. Others were constructed using suggestions from educators working currently with adults at Michigan State University. The final scale had the drawback of not being tested and retested for reliability, although a group of students did examine it for clarity. It had the advantage of being tailored for this University and refined empirically by analysing raw data obtained from the questionnaire.

The scale was constructed so that respondents circled a numerical rating from 5 to 0, with 5 representing "very strong influence," 4 "strong influence," 3 "moderate influence," 2 "weak influence," 1 "very weak influence," and 0 "no influence." The directions requested that no items be left blank, and any questionnaires returned with more than 3 items left blank were discarded.

3) Pre-entry Needs and Services Variables: The investigator chose these six pre-entry needs for inclusion in the questionnaire: 1) choosing and planning a program of study, 2) choosing and making career plans, 3) assessing interests and aptitudes, 4) obtaining financial support, 5) updating reading and other learning skills, and 6) deciding which college to attend. Eight University services were chosen: 1) a faculty or staff member in a college or department, 2) the Office of the Assistant Dean for

Lifelong Education,[1] 3) Adult Counseling and Testing Service, 4) Office of Admissions and Scholarships, 5) Career Resources Center, 6) Office of Financial Aids, 7) Evening College/Learning Resources Center Adult Learning Skills Course, and 8) Off-campus Extension and Continuing Education offices. University services were appropriately matched with the several pre-entry needs chosen. Respondents were requested to indicate that they 1) had no need, 2) had the need but received no assistance from the University, and 3) had the need and received assistance from the University. Additionally, those who said they had a need and received assistance from the University were asked to rate the University services used by them. The satisfaction scale was a rating from 0 (not at all satisfied) to 5 (extremely well satisfied).

4) Post-entry Needs and Services Variables: The investigator chose these six post-entry needs for inclusion in the questionnaire: 1) choosing and planning a program of study, 2) exploring career options or making career plans, 3) working out personal or social problems, 4) obtaining financial support, 5) updating reading or other learning skills, and 6) finding out where to go for

---

[1]Dr. Mildred B. Erickson's name was listed with this service because of her long association with adult students prior to being designated Assistant Dean. Students were assumed to know her and not the office.

service on campus. Ten University services were chosen: 1) academic advisors, 2) other faculty or staff members in a college or department, 3) the Office of the Assistant Dean for Lifelong Education, 4) the Counseling Center, 5) Career Resources Center, 6) Placement Services, 7) Office of Financial Aids, 8) Student Employment Service, 9) Learning Resources Center, and 10) Women's Resource Center. The procedure for matching these services with post-entry needs and rating their use and satisfaction was the same as described above for pre-entry needs.

Questionnaire evaluation: An initial questionnaire was critiqued by several faculty and staff persons at the University, as well as by the investigator's doctoral committee. After modification, a preliminary questionnaire was administered to a sample of six graduate students in adult education at the University, and to two over-30 employees who had recently completed their baccalaureate degrees. These persons completed the questionnaire, evaluated it for clarity, comprehensiveness, relevance of items, and ease of completion. Their comments were incorporated in the final questionnaire.

Sample selection and questionnaire administration: In mid-January 1979 the Office of Institutional Research generated by computer a list of all mid-life undergraduates enrolled the first week of Winter term.

Names and addresses, separated by sex and ordered consecutively by oldest to youngest, were obtained for 707 persons ages 30 through 49. A random sample of 350 subjects, stratified by sex, was selected. The sample was disproportionately stratifed by age to assure greater representation of those 40 years old and over. Age stratification had to be approximated from known age distributions in the population because subjects' ages were not provided.

The questionnaire (see Appendix A), with cover letter and a stamped self-addressed envelope, was mailed on February 15, 1979 to each of 350 initial subjects. First returns were received by February 17. By March 1, the initial deadline, 149 (42.6%) had been returned. At that time a follow up letter was sent requesting the return of outstanding questionnaires. By March 21, the second deadline, 207 (59.1%) were returned. The final count was 217 (62%). Ten of these were excluded from analysis because reported ages were under 30 or because major portions of the questionnaire were left blank.

Data Analysis Procedures

First, data collected from the survey were coded and transferred to MSU Data Sheets (NCS Trans-optic E. F5709-54321) that were read mechanically at the Scoring Office, Learning and Evaluation Services. This produced

a tape that punched out all raw data on computer cards. Once these were punched (6 per subject), they were made ready for analysis using the MSU CDC 6500 Computer.

The Statistical Package for the Social Sciences (SPSS)[1] procedure "Frequency" counted responses for every variable on the questionnaire to aid in checking for program or data card errors. Additional procedures were then employed to answer the research questions.

To answer questions 1, 2, and 3 about the sample's demographic characteristics, educational motivations, pre-entry and post-entry needs, and satisfaction with University services used, the SPSS procedures "Frequency" and "Breakdown" were programmed.

"Frequency," when applied to items in Sections I (demographic characteristics), III-A, B, and C (pre-entry needs and services), and IV-A, B, and C (post-entry needs and services), provided a summary by number and percentage distribution. It also produced means, modes, medians, and standard deviations for each continuous variable.

"Breakdown," when applied to items in Sections II (educational motivations), III-D (pre-entry satisfaction

---

[1]Norman H. Nie, et al., SPSS Statistical Package for the Social Sciences, 2nd Edition (New York: McGraw Hill Book Co., 1975).

with services used), and IV-D (post-entry satisfaction with services used), produced a summary by number and percentage distribution as well as sample means and standard deviations.

To answer research question 4 about significant relationships or differences attributed to the independent variables of sex, age, and major college, the SPSS procedures "Crosstabs" and "Breakdown/Oneway" were programmed.

"Crosstabs," when applied to items in Sections I (demographic characteristics), III-A (pre-entry needs), and IV-A (post-entry needs), determined significant relationships by the chi-square statistic. Chi-square compares frequencies of two or more responding groups and is useful with nominal data.[1]

"Breakdown/Oneway," when applied to items in Sections II (educational motivations), III-D (pre-entry satisfaction with services used), and IV-D (post-entry satisfaction with services used), determined significant mean score differences by the analysis of variance F-test. The F-test answers the question whether the between groups and within groups variance justifies the inference that

---

[1]Isaac, Handbook in Research and Evaluation, p. 116.

the means of different groups sampled are not all the same.[1]

The .10 significance level was set to determine significant chi-square and F-test. Use of .10 is acceptable when not generalizing to the population, as was this case. Also, risk from committing a Type I error--to conclude falsely that a difference does exist in the data when in fact it does not--is minimal for this non-sensitive topic. Moreover, practical differences might have been overlooked by setting a lower significance level that increased the chance of committing a Type II error--to conclude falsely that a difference does not exist in the data when in fact it does.

To answer research question 5 about clustering subjects according to educational motivations, the program PACKAGE[2] was used. PACKAGE provided two types of factor analysis. First was R-type correlation between each pair of motivational factors. Second was Q-type correlation between each pair of subjects.

R-factor analysis developed unidimensional motivational clusters from the 35 pre-determined factors.

---

[1]Isaac, Handbook in Research and Evaluation, p. 140.

[2]John E. Hunter and S. H. Cohen, "PACKAGE: A System of Computer Routines for the Analysis of Correlational Data," Educational and Psychological Measurement 29 (1969): 697-700.

First, these factors were partitioned into scales a priori by content and then correlated for each subject. This involved implementation of an "oblique multiple groups analysis." According to Hunter and Gerbing:[1]

> A 'group factor' is simply the trait measured by a given cluster or a group of items. The word 'oblique' means that the traits may be correlated with one another. The word 'multiple' refers to the existence of several clusters of items in the analysis. The input to a multiple groups analysis is the matrix of sample correlations between each pair of items on the questionnaire and the designated partitioning of the items into clusters. The output of a multiple groups analysis includes the parameter estimates which provide information for use in the evaluation of the unidimensionality of a set of clusters.

Unidimensionality and subsequent reliability was determined by using the resultant inter-item correlation matrix. Unidimensional clusters met three tests: 1) they were internally consistent, 2) they were parellel or externally consistent, and 3) they shared a similar meaning.

Q-factor analysis developed educational motivation groups. Because of computer limitations, a "Write Cases" procedure randomly selected about 70% of the original sample, excluding second bachelor's candidates. The

---

[1]John E. Hunter and David W. Gerbing, Unidimensional Measurement and Confirmatory Factor Analysis, Occasional Paper No. 20 (Michigan State University, The Institute for Research on Teaching, 1979), p. 12.

procedures followed were similar to R-factor analysis, except a Blind Multiple Groups Program was used. "Blind" meant that no groups were set a priori. Using the unidimensional clusters developed from R-factor analysis, PACKAGE sorted subjects according to highest factor loadings using a varimax rotation.

Summary

A brief review of the purposes of the study was presented. Then data collection procedures, including questionnaire design, evaluation, sampling, and administration, were discussed. Finally, data analysis procedures employed to answer the research questions were described and explained. Results of the data analysis are presented in Chapter IV.

CHAPTER IV

REPORT AND ANALYSIS OF DATA

Introduction

This chapter reports the data collected from the questionnaire to answer the research questions posed in Chapter I. First, the sample will be described according to demographic characteristics, educational motivations, pre-entry and post-entry needs, and satisfaction with University services used. Second, the analysis of sample data by the variables of sex, age, and college will be reported. Third, the analysis of the sample's educational motivations by factor analysis, and the description of educational motivation groups, will conclude the report.

Description of the Mid-life Sample

Demographic Characteristics

Age and Sex. In the Winter term 1979, 707 mid-life undergraduates were initially registered. The population distribution was: age 30-34 (452--63.9%), age 35-39 (146--20.7%), age 40-44 (63--8.9%), and age 45-49 (46--6.5%). Females numbered 435 (61.5%) and males 272 (38.5%). The

sample distribution was: age 30-34 (67--32.0%), age 35-39 (64--30.9%), age 40-44 (44--21.3%), and age 45-49 (32--15.5%). Females numbered 435 (61.5%) and males 272 (38.5%). The sample, therefore, was 31.9% underrepresented at age 30-34, and 9% to 12.4% overrepresented in the other three age categories. It was also slightly overrepresented by females.

Academic Background. Questions about academic status were: 1) What college are you enrolled in? 2) What is your present class level? and 3) How many credits are you carrying Winter term 1979? Questions about previous academic experience were: 1) What was your age when you first enrolled in any college? 2) After first enrolling in any college, what was the largest continuous period you stopped attending college? 3) What colleges did you attend before coming to Michigan State University? and 4) Have you previously earned a baccalaureate degree?

Colleges: Thirteen colleges were represented with ten enrolling 95.6% of the sample. The largest enrollments were in the College of Social Science (23.7%) and the College of Arts and Letters (13.5%).

Class Level: Nearly 90% were juniors or seniors.

Credit Load: Credit loads ranged from 2 to 21, with a mean of 9.5 (S.D. 4.4), a mode of 4, and a median of 9.2. About 60% were enrolled part-time (11 credits or less), with 40.8% of these enrolled for one course only.

Nearly three-quarters were enrolled for 6 to 16 credits.

Previous Degree: Twenty-four (11.6%) reported having earned a baccalaureate previously.

Previous College: About four-fifths attended another college before entering the University. Half attended one other college, and one-fifth two other colleges. The largest previous enrollments were in junior and community colleges (79.6%) and four year public colleges (34.3%).

Age of First Enrollment: First enrollment ages ranged from 16 to 45, with a mean of 23.5, a mode of 18, and a median of 18.6. More than half had started college in their teens. About a quarter entered college after age 30.

Period Stopped Out: Periods of stopping out ranged from zero to 30 years, with a mean of 7.1, a mode of 10, and a median of 6. More than half had stopped out five years or less.

Residency. Questions about residency were: 1) While attending MSU, where do you live? and 2) If living off-campus, how many miles (one-way) do you commute daily?

A majority of 87.9% (182) lived off-campus. The mean miles commuted was 14.7, with a mode of 10, and a median of 9.

TABLE 4.1--Academic characteristics of the mid-life sample

Variables	#	% (N=207)
Colleges:		
Social Science	49	23.7
Arts and Letters	28	13.5
Education	20	9.7
Human Ecology	19	9.2
Justin Morrill	18	8.7
Natural Science	16	7.7
Agriculture and Natural Resources	16	7.7
Business	15	7.2
Engineering	9	4.3
University College	8	3.9
Communication Arts	3	1.4
James Madison	1	.5
Urban Development	1	.5
Unknown	4	1.9
Class Level:		
Freshmen	9	4.4
Sophomores	13	6.3
Juniors	74	35.7
Seniors	109	52.7
Unknown	2	1.0
Credit Load:		
Part-time (2-11 credits)	125	60.3
Full-time (12 or more credits)	79	38.1
Unknown	3	1.6
Previous College:		
Attended no other college	40	19.3
Attended one other college	116	56.0
Attended more than one other college.	51	24.7
Attended a community college	133	64.3
Attended a four year college	76	36.7

TABLE 4.1 (cont'd)

Variables	#	% (N=207)
Age of First Enrollment:		
Teens	112	54.1
Twenties	47	22.7
Thirties	35	16.9
Forties	13	6.3
Period Stopped Out:		
Zero to 5 years	114	55.1
6 to 15 years	73	35.2
More than 15 years	20	9.6

Socio-economic Background. Questions about the family were: 1) What is your present marital status? and 2) How many persons are financially dependent on you? Questions about work were: 1) What is your present occupation? and 2) While attending college, how many hours weekly do you work a) as a homemaker? b) at a temporary job? c) at a regular job? and d) as a volunteer?

Marital Status: Two-thirds were married living with a spouse, and one in five were divorced.

Financial Dependents: Slightly more than half had some person financially dependent on them. About a quarter had financially dependent children in elementary school, or children in junior or senior high school, or a dependent spouse. Less than 15% had financially dependent pre-school children.

Occupations: Sixty-one occupations were listed. Using the Dictionary of Occupational Titles, the investigator ordered these into 7 major occupational categories.[1]

The largest occupational group was Services, with 43 out of 51 classified as "homemakers." Second was Professional-Technical, with nearly two-thirds classifed as Medicine and Health (nurses and lab technicians) and Education (teachers, instructors, counselors, and education

---

[1]U. S. Department of Labor, Dictionary of Occupational Titles, Fourth Edition, 1977, pp. xxxiv-xli.

directors). Nearly a fifth listed their occupation as student.

Work Experience: Slightly less than half worked at a regular job while attending college. Hours worked weekly ranged from 2 to 70, with a mean of 36.7, a mode of 40, and a median of 39.9. About 15% worked at a temporary job. Hours worked weekly ranged from 4 to 40, with a mean of 13.4, a mode of 10, and a median of 12.5. A slight majority worked as homemakers. Hours worked weekly ranged from 3 to 99, with a mean of 32.7, a mode of 20, and a median of 25.1. Nearly 20% worked as a volunteer. Most worked 20 hours or less per week, with a mean of 5.7, a mode of 3.0, and a median of 4.1.

Financial Background. Questions about finances were: 1) What do you spend annually to attend MSU? 2) How much pay did you forego this year to attend MSU? and 3) Which sources have you used to finance your college education?

Annual Cost: Two-thirds spent $2,000 or less.

Pay Foregone: Pay foregone ranged from $0 to $25,000, with a mean of $4,712.42, a mode of $0, and a median of $319.00.

Financial Sources: The primary financial sources were the students' own or their spouse's earnings or savings. The principal institutional source was financial aids arranged through the University.

TABLE 4.2--Socio-economic characteristics of the mid-life sample

Variables	#	% (N=207)
Marital Status:		
Married living with spouse	139	67.1
Divorced	43	20.8
Never Married	20	9.7
Separated	5	2.4
Financial Dependents:		
Pre-school children	30	14.4
Elementary children	54	26.1
Junior or senior high school children	56	27.1
College age children	18	8.7
Out of school children	5	2.4
Spouse	51	24.6
Parents	5	2.4
Occupations:		
Professional-Technical (architects, engineers, medical workers, educators)	46	22.2
Manager-Administrative (commercial and public)	26	12.6
Clerical-Sales (secretaries, typists, and salesmen)	25	12.1
Service (domestic and protective)	51	24.6
Agricuture and Forestry	5	2.4
Tradesmen (foundry, skilled, and transport)	12	5.8
Miscellaneous (self-employed and students)	42	20.3
Work:		
Regular job	101	48.9
Temporary job	30	14.5
Homemaker	108	52.2
Volunteer	38	18.4

TABLE 4.3--Financial characteristics of the mid-life sample

Variables	#	% (N=207)
Annual Cost:		
Up to $2,000	133	64.3
$2,001 to $4,000	44	21.3
$4,001 to $6,000	14	6.8
Over $6,000	8	3.9
Unknown	8	3.9
Pay Foregone:		
Zero	72	34.8
$5,000 or less	22	10.6
More than $5,000	52	25.1
No answer	61	29.5
Financial Sources:		
Used one source only	59	28.5
Used multiple sources	148	71.5
Used own earnings and savings	155	74.8
Used spouse's earnings and savings	96	46.4
Obtained scholarships, fellowships, or other grants from MSU	61	29.5
Used GI or other veterans benefits	39	18.8
Obtained educational loans from MSU	33	15.9
Used employer's educational plan	30	14.5
Used an inheritance or loans and gifts from family	28	13.5
Obtained loans from banks or other lending institutions	14	6.8
Obtained paid release time from employer	13	6.3
Used other sources: (welfare, private scholarship, vocational rehabilitation, LEEP)	8	3.9

Educational Motivations

Factors. Two mean scores were calculated for each of the 35 educational motivation factors surveyed. The first summed all ratings from 0 to 5. The second excluded the rating of 0 in the summing.

The overall factor means ranged from 3.82 to 0.13. When ranked, 3 of the 10 highest rated factors related to career concerns, 3 to life goals and directions, and 2 to knowledge interests. The adjusted factor means ranged from 4.34 to 1.98. This calculation resulted in several changes in factor rankings. For example, "to prepare to re-enter the labor market after a long absence" changed from rank 23 to rank 9; "to prepare to enter the labor market for the first time" changed from rank 30 to rank 13; and "to meet standards set by professional or trade associations" changed from rank 17 to rank 6. This dual method of calculation was useful in identifying some strong minority held educational motivations that, overall, were rated low.

Clusters. Using the Multiple Groups Program PACKAGE, the investigator organized the 35 educational motivation factors into 12 unidimensional clusters. These were subsequently labeled:

1) Knowledge Interest (KI)--an orientation toward learning for its own sake (questionnaire items 18 and 30).

TABLE 4.4—Educational motivation factor mean scores of the mid-life sample

Variables	Overall	Rank	Adjusted	Rank	% who rated factor zero
To prepare for a career in a new field	3.82	1	4.34	1	13.5
To improve my financial future	3.63	2	4.13	3	12.1
To satisfy personal intellectual curiosity	3.51	3	3.91	5	10.1
To learn for the enjoyment of learning	3.19	4	3.79	8	15.5
To meet requirements of potential employers	2.86	5	4.32	2	33.8
To prepare to cope with changing life goals	2.79	6	3.65	11	23.7
To examine future life goals	2.68	7	3.89	7	26.1
To reflect on my life's directions	2.63	8	3.59	12	26.6
To be able to better serve humanity	2.38	9	3.32	14	28.5
To prepare for a specialized role in my field of work	2.32	10	3.97	4	41.6
To gain greater status and prestige	2.22	11	3.16	20	30.0
To examine future academic goals	2.17	12	3.28	16	33.8
To change the routine of daily life	2.09	13	3.27	17	36.8
To consider different life values	2.00	14	3.17	19	37.2
To learn about alternative academic opportunity	1.89	15	3.05	22	38.2
To gain fresh perspective on problems I deal with	1.88	16	3.13	21	40.6
To meet standards set by professional associations	1.73	17	3.90	6	55.6
To refresh information and skills not used awhile	1.62	18	2.96	25	45.4
To better understand community problems	1.57	19	2.75	28	43.0
To prepare to change from one job to another in my present field	1.48	20	3.71	10	60.4
To become a better citizen	1.46	21	2.89	26	49.3

TABLE 4.4 (cont'd)

Variables	Overall	Rank	Adjusted	Rank	% who rated factor zero
To keep up with changing knowledge in my field of work	1.45	22	3.24	18	55.1
To prepare to re-enter the labor market after a long absence	1.37	23	3.77	9	63.8
To acquire skills or knowledge required by changes in my current job	1.34	24	3.31	15	59.4
To improve personal relationships with others	1.29	25	2.64	29	51.2
To update knowledge in fields studied earlier	1.25	26	3.00	24	58.5
To find ways to cope with personal problems	1.14	27	2.86	27	60.4
To make new friends	1.08	28	2.10	34	48.8
To meet congenial people	.93	29	2.23	33	58.5
To prepare to enter the labor market for the first time	.72	30	3.54	13	79.7
To have time away from my family	.59	31	2.41	30	75.4
To belong to a group	.56	32	1.98	35	72.0
To get away from personal problems	.46	33	2.40	31	80.7
To meet requirements of my present employer	.43	34	3.03	23	85.0
To keep my license of certificate valid	.13	35	2.25	32	94.2

2) Upward Mobility (UM)--an orientation toward improving financial or personal position (items 22 and 28).

3) Life Exploration (LE)--an orientation toward examining life goals, directions and values (items 5, 8, 11 and 14).

4) External Career Interest (EC)--an orientation toward meeting requirements or standards of external employment or professional groups (items 32 and 35).

5) Career Entry/Re-entry (CE)--an orientation toward preparing to enter or re-enter the labor market (items 4 and 34).

6) Academic Exploration (AE)--an orientation toward examining future academic goals or opportunities (items 26 and 29).

7) Social Concern (SC)--an orientation toward preparing to serve the community or society (items 6, 9 and 12).

8) Renewal Interest (RI)--an orientation toward updating information, knowledge and skills not used for awhile (items 10 and 24).

9) Career Improvement (CI)--an orientation toward improving skills and knowledge in a present job or toward preparing for specialization within a present field of work (items 7, 13, 16, 21 and 25).

10) Life Concerns (LC)--an orientation toward preparing to deal with personal problems or interpersonal relationships (items 20 and 27).

11) Social Interest (SI)--an orientation toward associating with others (items 1, 3 and 15).

12) Escape Interest (EI)--an orientation toward getting away from family or personal problems (items 23 and 33).

Four factors intercorrelated poorly: 1) "to prepare for a career in a new field," 2) "to change the routine

of daily life," 3) "to gain fresh perspective on problems I deal with," and 4) "to keep my license or certificate valid." The first was retained for further analysis because it was rated consistently high overall. Therefore, reference will be made to 13 educational motivations, whose standard score coefficient alphas (a measure of reliability) were: Career Change (1.00), Life Exploration (.84), Social Interest (.82), Career Improvement (.78), Social Concern (.78), Knowledge Interest (.72), Academic Exploration (.70), Escape Interest (.69), Life Concerns (.65), Career Entry/Re-entry (.63), Upward Mobility (.60), and Renewal Interest (.60).

Two mean scores were calculated for each of the 13 educational motivation orientations. The highest rated orientations overall were Career Change, Knowledge Interest, and Upward Mobility. The lowest were Social Interest and Escape Interest. The adjusted means resulted in minor changes of rank order except for Career Entry/ Re-entry, which changed from rank 11 to rank 7.

Generally, two orientations were strong influences (over 3.00), five moderate influences (1.75 to 3.00), and six weak influences (below 1.75). Three of the moderate to strong orientations were career associated. More than half the sample rated Career Entry/Re-entry and External Career Interest as having a zero influence.

TABLE 4.5--Educational motivation cluster mean scores of the mid-life sample

Cluster	Overall	Rank	Adjusted	Rank	% who rated cluster zero
Career Change	3.75	1	4.34	1	13.5
Knowledge Interest	3.35	2	3.56	2	5.8
Upward Mobility	2.92	3	3.27	3	10.6
Life Exploration	2.52	4	2.89	5	12.6
External Career Interest .	2.30	5	3.17	4	27.5
Academic Exploration . . .	2.03	6	2.71	6	25.1
Social Concern	1.80	7	2.32	8	22.2
Renewal Interest	1.43	8	2.25	9	36.2
Career Improvement	1.40	9	1.99	11	29.5
Life Concerns	1.21	10	2.07	10	41.5
Career Entry/Re-entry . .	1.04	11	2.57	7	59.4
Social Interest	.85	12	1.51	13	43.5
Escape Interest	.53	13	1.61	12	67.1

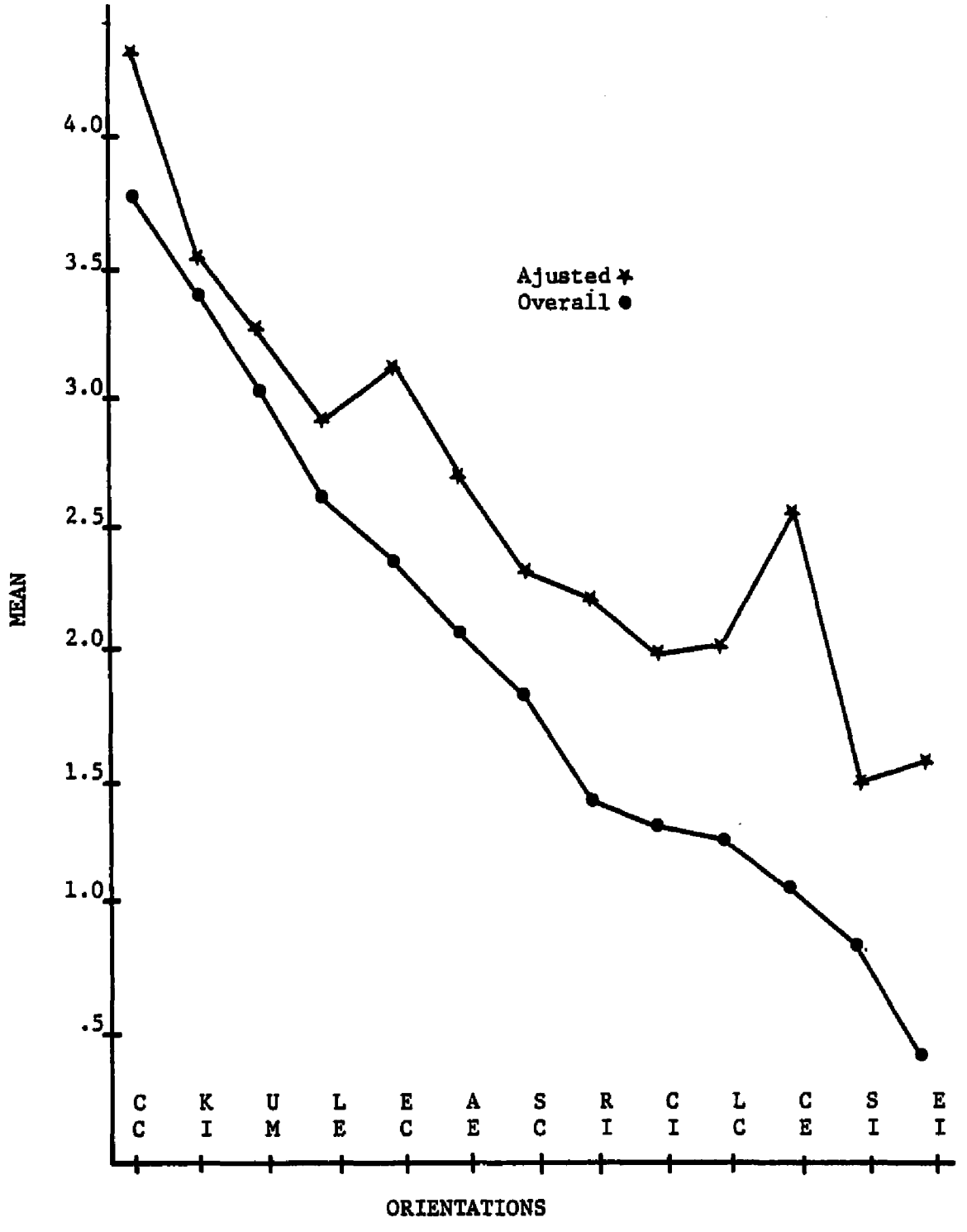

FIGURE 4.1--Educational motivation orientation mean ratings

Other Factors. Thirty respondents listed other factors that influenced their decision to attend the University. These factors, often similar to those listed in the questionnaire, were: career change (6), personal growth and self-esteem (7), preparation for professional school (2), gaining special skills (4), desire to fulfill delayed goals (3), a pleasurable activity (3), and unclassifiable (5).

Pre-entry and Post-entry Needs

Pre-entry. A quarter had no expressed pre-entry needs. Of the three-quarter with some expressed needs, a majority (54.6%) wanted assistance only with planning their program of study. Only 6.3% wanted help with updating reading and other learning skills. The other four needs expressed by a minority ranged from 20.3% to 29.5%.

For each pre-entry need listed, 2.9% to 11.3% expressed having it but never seeking service to satisfy it at the University. This occurred most frequently with those needing assistance to assess interests or aptitudes (54.8%), to update learning skills (46.2%), and to plan or choose a career (40%).

Other pre-entry needs for which service to satisfy them was received from the University were: information on requirements, procedures, housing, and daycare (7), effective service to solve procedural problems (5), personal counseling (3), and flexible programming (4).

Other pre-entry needs for which service to satisfy them was not received from the University were: information on services (7), help to solve procedural problems (4), flexible evening programs (2), reasonable treatment and understanding (2), an adult oriented service (2), and personal counseling (1).

Other pre-entry needs for which service to satisfy them was received outside the University were: financial assistance (10), academic and career planning (3), help to solve procedural problems (2), interest and aptitude testing (2), and encouragement to pursue the degree (3).

TABLE 4.6--Pre-entry needs of the mid-life sample

Needs	Yes, had a need		Assistance not sought at MSU		% of Yes
	#	% (N=207)	#	% (N=207)	
Planning studies	113	54.6	17	8.2	15.0
Obtaining finances	61	29.5	9	4.3	14.8
Planning a career	50	24.2	20	9.7	40.0
Choosing a college	48	23.2	10	4.8	20.8
Assessing aptitudes . . .	42	20.3	23	11.1	54.8
Updating learning skills .	13	6.3	6	2.9	46.2
Had no needs	54	26.1			
Had one need	54	26.1			
Had multiple (2-5) needs .	50	24.2			

Post-entry. A sixth had no expressed post-entry needs. Of the 86% with some expressed needs, a majority (61.4%) wanted assistance only with planning their program of study. Only 11.6% wanted help with updating reading and other learning skills. The other four needs expressed by a minority ranged from 37.2% (obtaining finances) to 18.4%.

For each post-entry need listed, 1% to 7.4% expressed having it but never seeking service to satisfy it at the University. This occurred most frequently with those needing assistance to solve personal or social problems (39.5%) and to update learning skills (37.5%).

Other post-entry needs for which service to satisfy them was received from the University were: effective service to solve procedural or personal problems (7), encouragement and support (2), and medical care (1).

Other post-entry needs for which service to satisfy them was not received from the University were: information on-campus students receive regularly (3), flexible evening programs (2), guidance to prepare for graduate school (2), personal counseling (3), encouragement (2), special services such as daycare, parking, and self-paced instruction (5).

Other post-entry needs for which service to satisfy them was received outside the University were: financial aid (5), psychotherapy (3), encouragement (2), academic and career counseling (2), transportation (1), and daycare (1).

TABLE 4.7--Post-entry needs of the mid-life sample

Needs	Yes, had a need		Assistance not sought at MSU		% of Yes
	#	% (N=207)	#	% (N=207)	
Planning studies	127	61.4	2	1.0	1.5
Obtaining finances	77	37.2	8	3.9	10.4
Finding University services	67	32.4	12	5.8	17.9
Planning a career	53	25.6	9	4.3	17.0
Solving problems	38	18.4	15	7.2	39.5
Updating learning skills .	24	11.6	9	4.3	37.5
Had no needs	33	15.9			
Had one need	57	27.5			
Had multiple (2-5) needs .	58	28.0			

Pre-entry and Post-Entry Service Use and Satisfaction

Pre-entry Use. More than 300 pre-entry service contacts were reported, with 83.8% of these accounted for by faculty and staff (44.2%), the Office of Admission and Scholarships (16.5%), the Office of the Assistant Dean for Lifelong Education (12.2%), and the Office of Financial Aids (10.9%).

Faculty and Staff: Listed with all six pre-entry needs, faculty and staff were checked as contacted more than any other service for planning studies, planning a career, choosing a college, and assessing aptitudes.

Office of Admissions and Scholarships: Listed twice, this service was checked as contacted 21.4% for planning studies and 30.6% for obtaining finances.

Office of the Assistant Dean for Lifelong Education: Listed with all six pre-entry needs, this service was checked as contacted except for updating learning skills. Thirteen percent contacted the office for planning studies, 11.1% for obtaining finances, 15.6% for planning a career, and 11.9% for choosing a college.

Office of Financial Aids: Listed only with obtaining finances, it was contacted 45% by those having that need.

These other services, listed with need, were contacted at pre-entry: planning studies (V. A. Office--1); planning a career (V. A. Office--1, and Placement Services--1); assessing aptitudes (Office of Admissions and Scholarships--2, and Off-campus centers--1); obtaining finances (V. A. Office--5, University Staff Benefits Office--2); updating learning skills (none); and choosing a college (Office of Admissions and Scholarships--2, V. A. Office--1, and University telephone operator--1).

Pre-entry Satisfaction. Pre-entry satisfaction mean scores ranged from 2.43 (Office of Admissions and Scholarships used for planning studies) to 5.00 (Office of the Assistant Dean for Lifelong Education used for planning a career and choosing a college). Among services contacted 10 or more times overall, mean scores ranged from 2.45 to 4.41. The Office of Financial Aids and the Office

of Admissions and Scholarships received the lowest ratings (2.45 and 2.56), and the Office of the Assistant Dean for Lifelong Education the highest (4.41).

Post-entry Use. Nearly 450 post-entry service contacts were reported, with 85.3% of these accounted for by an academic advisor (39.2%), other faculty and staff (22.9%), the Office of Financial Aids (12.5%), the Counseling Center (5.8%), and the Office of the Assistant Dean for Lifelong Education (4.9%).

Academic Advisor: Listed with all six post-entry needs, academic advisors were checked as contacted more than any other service for planning studies, finding University services, planning a career, and solving problems.

Other Faculty and Staff: Listed with all six post-entry needs, faculty and staff were checked as contacted 25.6% for planning studies, 36% for finding University services, and 39.8% for planning a career.

Office of Financial Aids: Listed only with obtaining finances, it was contacted 62.9% by those having that need.

Counseling Center: Listed with four needs, it was contacted 26.7% by those having a need for solving problems.

Office of the Assistant Dean for Lifelong Education: Listed with all six post-entry needs, this service was checked as contacted except for updating learning skills.

TABLE 4.8--Pre-entry satisfaction with University services of the mid-life sample

Services	Planning Studies		Obtaining Finances		Deciding College		Career Planning		Assessing Aptitudes		Updating Skills		Total Uses		Mean
	#	Mean	#	Mean	#	Mean	#	Mean	#	Mean	#	Mean	#	% (N=294)	
Faculty and staff	73	3.66	2	2.50	28	3.71	19	3.53	10	3.80	2	4.50	134	45.6	3.63
Office of Admissions and Scholarships	28	2.43	22	2.73									50	17.0	2.56
Office of the Assistant Dean for Lifelong Education	17	4.23	8	4.25	5	5.00	5	5.00	2	4.50	0	n.a.	37	12.6	4.41
Office of Financial Aids .			33	2.45									33	11.2	2.45
Adult Counseling Center .	4	3.25					2	3.50	5	3.60			11	3.7	3.45
Off-campus extension offices and centers . .	4	2.75			2	4.50	2	2.50					8	2.7	3.13
Career Resources Center							2	3.00					2	.7	3.00
Evening College/Learning Resources Center Evening College class .											2	3.00	2	.7	3.00
Other services	1	n.a.	7	n.a.	4	n.a.	2	n.a.	3	n.a.	0	n.a.	17	5.8	n.a.

It was contacted most for obtaining finances (9%).

These other services, listed with need, were contacted at post-entry: planning studies (University Ombudsman--1, V. A. Office--1, and Career Resources Center--1); planning a career (none); solving problems (Volunteer Office--1, University Employment Office--1, and Psychology Clinic--2); obtaining finances (V. A. Office--2, undergraduate student government--1, and Office of Admissions and Scholarships--1); updating learning skills (Women's Resource Center--1, Math review session--1, and Evening College--1); and finding University service (printed information--2, and Office of Admissions and Scholarships--1).

Post-entry Satisfaction. Post-entry satisfaction mean scores ranged from 1.86 (Counseling Center for solving problems) to 5.00 (advisors and other faculty and staff for updating learning skills). Among services contacted 10 or more times overall, mean scores ranged from 3.02 to 3.82, with the lowest for the Office of Financial Aids and the highest for other faculty and staff.

Unsolicited Comments about University Services

Slightly more than 10% (23) appended special comments or wrote letters describing their perceptions of and experiences with University services. Of these, 5 were males and 18 females, with 15 under age 40.

TABLE 4.9--Post-entry satisfaction with University services of the mid-life sample

Services	Planning Studies		Obtaining Finances		Finding Services		Career Planning		Solving Problems		Updating Skills		Total Uses		Mean
	#	Mean	#	Mean	#	Mean	#	Mean	#	Mean	#	Mean	#	% (N=449)	
Academic advisors	103	3.55	6	3.86	32	3.77	24	3.21	9	4.63	2	5.00	176	39.2	3.80
Other faculty or staff . .	42	3.82	3	3.33	31	3.67	20	3.50	5	4.50	2	5.00	103	22.9	4.07
Office of Financial Aids .			56	3.02									56	12.5	3.02
Counseling Center	7	2.57			5	3.80	6	2.17	8	1.86			26	5.8	2.50
Office of the Assistant Dean for Lifelong Education	5	4.75	8	4.71	3	4.00	5	4.00	1	3.00	0	n.a.	22	4.9	4.38
Student Employment Service			9	3.33									9	2.0	3.33
Learning Resource Center .											7	4.17	7	1.6	4.17
Placement Services							6	3.00					6	1.3	3.00
Women's Resource Center . .					5	3.80							5	1.1	3.80
Career Resource Center . .							4	2.75					4	.9	2.75
Other services	7	n.a.	7	n.a.	10	n.a.	0	n.a.	7	n.a.	4	n.a.	35	7.8	n.a.

Generally, their comments were critical. Some reported difficulty obtaining financial aid from the University. They felt that the Office of Financial aids placed obstacles before older students--". . .support was more likely to be provided for someone younger or just starting out I was told"--and displayed insensitivity to their feelings by printing forms containing such items as "parental financial statements." Others complained about academic advising, saying that their advisors were too busy to see, or too insensitive to the feelings and needs of, older, part-time, or fully employed students. One over-40 female wrote: "Advising for the non-traditional students leaves much to be desired."

A majority of these students complained about problems obtaining University service. They were concerned about scheduling conflicts, getting information, inconvenient times for conducting business on campus, inavailability of services for part-time students, and inadequate orientation for adult students. Some specific comments were: 1) ". . . nothing geared to anyone over 22 and working full time"; 2) "A big aid to adult students would be a brochure describing services availabilty, etc."; 3) "I called the Counseling Center just now and found students under 7 credits do not qualify"; 4) "I couldn't drop or add classes at night, so had to miss work"; and 6) "The only way I could get knowledge (answers) and

services was to subject myself to the Freshman Orientation Program Summer 1976. I was from Redford and got sick of making long distance phone calls and visits for nothing."

If one comment summarized these students' feelings, it would be that of a 49 year old female: "All I can say about the whole thing is--how numbing!"

Analysis of Sample Data by the Variable of Sex

Demographic Characteristics

A chi-square procedure tested the null hypothesis: The variable of sex was not significantly related .10 to any of the demographic characteristics of the mid-life sample. Appendix B reports those non-significant items not discussed in this section.

Academic Background. Two items related significantly: previous degree and college. Males were more likely than females to have earned a baccalaureate degree previously. Overall, both sexes were similarly enrolled in the College of Social Science. But 20.7% more females enrolled in Professional/Human Services colleges (especially the College of Education and the College of Human Ecology) and the Liberal Arts colleges (especially the College of Arts and Letters and Justin Morrill College). Also, 21.9% more males enrolled in Professional/Technical colleges (especially the College of Engineering).

Socio-economic Background. Both marital status and financial dependents were related significantly. More males were never married while more females were divorced. Females had 21.8% fewer financial dependents. No statistical test could be performed on individual categories of dependency because of multiple responses. However, males had more pre-school dependents (+23.4%) and elementary dependents (+16.7%). Females had more junior and senior high school dependents (+6.3), as well as more dependent spouses (+46.9%)

Occupations and work also were related significantly. Males were represented more often in Manager-Administrative and Tradesmen occupations, and females more often in Service occupations, primarily as homemakers. Females worked more as homemakers and volunteers, and males worked more in regular jobs.

Financial Background. Two items related significantly: annual cost and total sources of financial aid. Females tended to spend less annually. Males tended to use a greater variety of financial resources. No statistical test could be performed on individual categories of financial support. However, males tended more to finance their education by using their own savings and earnings, GI benefits, and employers' plans. Females tended more to use their spouse's earnings or savings and scholarships, fellowships, and grants arranged through the University.

TABLE 4.10--Demographic characteristics related significantly to the variable of sex

Variables	Females #	Females % (N=137)	Males #	Males % (N=70)	Difference %	Significance
Previous Degree:						.014
Yes	10	9.3	14	20.0	+12.7 M	
Colleges:						.000
Liberal Arts:	37	27.0	17	24.3		
Arts and Letters	25	18.2	3	4.3	+13.9 F	
Justin Morrill	8	5.8	10	14.3		
University College	4	3.0	4	5.7		
Social Sciences:	32	23.4	18	25.7		
Social Science	32	23.4	17	24.3		
James Madison	0	.0	1	1.4		
Professional/Human Services:	48	35.0	10	14.3	+20.7 F	
Education	18	13.1	2	2.9	+10.2 F	
Human Ecology	18	13.1	1	1.4	+11.7 F	
Business	8	5.8	7	10.0		
Communication Arts	3	2.2	0	.0		
Urban Development	1	.7	0	.0		
Professional/ Technical:	17	12.4	24	34.3	+21.9 M	
Natural Science	11	8.0	5	7.1		
Agriculture and Natural Resources	6	4.4	10	14.3	+ 9.9 M	
Engineering	0	.0	9	12.9	+12.9 M	
No answer	3	2.2	1	1.4		
Marital Status:						.001
Never married	7	5.1	13	18.6	+13.5 M	
Divorced	35	25.5	8	11.4	+14.1 F	
Separated	5	3.6	0	.0		
Married with spouse	90	65.7	49	70.0		
Financial Dependents:						.004
None	75	54.7	23	32.9	+19.8 F	
One to 3	54	39.4	36	51.4	+12.0 M	
Four or more	8	5.8	11	15.7	+ 9.9 M	

TABLE 4.10 (cont'd)

Variables	Females		Males		Difference	Significance
	#	% (N=137)	#	% (N=70)		
Pre-school children .	9	6.6	21	30.0	+23.4 M	
Elementary children .	28	20.4	26	37.1	+16.7 M	
Junior or senior high school children . .	40	29.2	16	22.9		
Children in college .	13	9.5	5	7.1		
Children out of school	4	2.9	1	1.4		
Spouse	12	8.8	39	55.7	+46.9 M	
Parents	2	1.5	3	4.3		
Occupations:						.000
Professional-Technical	33	24.1	13	18.6		
Manager-Administrative	12	8.8	14	20.0	+12.2 M	
Clerical-Sales . . .	18	13.1	7	10.0		
Services	44	32.1	7	10.0	+22.1 F	
Agriculture/Forestry	2	1.5	3	4.3		
Tradesmen	2	1.5	10	14.3	+12.8 M	
Miscellaneous	26	19.0	16	22.0		
Work:						
Regular job	51	37.2	50	71.4	+34.2 M	.003[a]
Homemaker	95	69.3	13	18.5	+51.1 F	.003
Volunteer	32	23.3	6	8.6	+14.7 F	.000
Annual Cost:						.067
Less than $2,000 . .	93	67.9	40	57.1	+10.8 F	
$2,001 to $4,000 . .	28	20.4	16	22.9		
$4,001 to $6,000 . .	6	4.4	8	11.4		
More than $6,000 . .	3	2.2	5	7.1		
No answer	7	5.1	1	1.4		

[a]Chi-square based on breakdown of hours worked per category.

TABLE 4.10 (cont'd)

Variables	Females		Males		Difference %	Significance
	#	% (N=137)	#	% (N=70)		
Financial Sources:						.000
Used one only	40	29.2	19	27.1		
Used two	46	33.6	20	28.6		
Used three	34	24.8	12	17.1		
Used four	10	7.3	15	21.4	+14.1	M
Used own earnings or savings	93	67.9	62	88.6	+20.7	M
Used spouse's earnings or savings . .	79	57.7	17	24.3	+33.4	F
Obtained scholarship, fellowships, or other grants from MSU	44	32.1	17	24.3		
Used GI benefits . .	7	5.1	32	45.7	+40.6	M
Obtained educational loan from MSU . . .	21	15.3	12	17.1		
Used employer's plan.	16	11.7	14	20.0		
Used inheritance, loan, or gift . . .	21	15.3	7	10.0		
Obtained loans from other institution .	10	7.3	4	5.7		
Obtained paid released time	9	6.6	4	5.7		

Educational Motivations

Factors. An F-test analysis of variance procedure tested the null hypothesis: Males and females in the sample did not differ significantly .10 in their overall ratings of educational motivation factors.

Twelve factors differed significantly. Of these, eight were career oriented, two knowledge oriented, and two life goal oriented.

Career Oriented: Females rated these higher: 1) "to prepare to re-enter the labor market after a long absence," 2) "to prepare to enter the labor market for the first time," and 3) "to prepare for a career in a new field." Males rated these higher: 1) "to prepare to change from one job to another in my present field of work," 2) "to acquire skills or knowledge required by changes in my present job," 3) "to prepare for a specialized role in my field of work," 4) "to keep up with changing knowledge in my field of work," and 5) "to meet the requirements of my present employer."

Other Factors: Females rated two knowledge and life goal oriented factors higher: 1) "to satisfy personal intellectual curiosity," 2) "to learn for the enjoyment of learning," 3) "to prepare to cope with changing life goals," and 4) "to examine future life goals."

TABLE 4.11--Educational motivation factors related significantly to the variable of sex

Factors	Females Mean	Males[a] Mean	Difference	Significance
To prepare for a career in a new field	4.01	3.42	+ .59 F	.005
To satisfy personal intellectual curiosity	3.80	2.92	+ .88 F	.001
To learn for the enjoyment of learning	3.47	2.63	+ .84 F	.002
To prepare to cope with changing life goals	3.07	2.26	+ .81 F	.009
To examine future life goals	2.87	2.46	+ .41 F	.062
To prepare for a specilized role in my field of work	2.17	2.66	+ .49 M	.060
To prepare to change from one job to another in my present field	1.16	1.97	+ .81 M	.005
To keep up with changing knowledge in my field of work	1.30	1.76	+ .46 M	.061
To prepare to re-enter the labor market after a long absence	1.70	.61	+1.09 F	.001
To acquire skills or knowledge required by changes in my current job	1.15	1.81	+ .66 M	.017
To prepare to enter the labor market for the first time	.94	.27	+ .67 F	.008
To meet the requirements of my present employer	.31	.67	+ .36 M	.020

[a]Means calculated for 137 females and 70 males.

Clusters. An F-test analysis of variance procedure tested the null hypothesis: Males and females in the sample did not differ significantly at .10 in their overall ratings of educational motivation orientations.

Five orientations differed significantly. Females rated Career Entry/Re-entry, Knowledge Interest, Career Change, and Escape Interest higher. Males rated Career Improvement higher.

Overall, females rated 8 orientations higher, and males rated 5 higher. Differences in mean for non-significant orientations were less than .17 except for Life Exploration (+.35), Life Concerns (+.24), and Academic Exploration (+.32).

When means were adjusted, differences were confirmed for Knowledge Interest (females .53 higher) and Career Entry/Re-entry (females .61 higher). By this method, females rated 9 orientations higher, and males 4 higher.

Pre-entry and Post-entry Needs

A chi-square procedure tested the null hypothesis: The variable of sex was not significantly related .10 to any of the expressed pre-entry and post-entry needs of the sample.

Pre-entry. At pre-entry, two needs related significantly. Both sexes had similar need for planning their studies, but females indicated an 8% greater incidence

TABLE 4.12--Educational motivation orientations related significantly to the variable of sex

Orientations	Females		Males[a]		Significance	
	Overall Mean	Adjusted Mean	Overall Mean	Adjusted Mean	Overall	Adjusted
Career Change	3.97	4.42	3.31	4.14	.01*	.13
Knowledge Interest . .	3.64	3.72	2.79	3.19	.00*	.01*
Upward Mobility . . .	2.92	3.31	2.92	3.20	.99	.53
Life Exploration . . .	2.63	2.90	2.27	2.84	.12	.78
External Career . . .	2.29	3.26	2.32	3.01	.89	.29
Academic Exploration .	2.13	2.79	1.81	2.54	.17	.23
Social Concern	1.81	2.29	1.80	2.37	.96	.70
Renewal Interest . . .	1.39	2.33	1.51	2.11	.60	.32
Career Entry/Re-entry.	1.35	2.68	.44	2.07	.00*	.10*
Life Concerns	1.30	2.15	1.06	1.91	.26	.32
Career Improvement . .	1.21	1.93	1.78	2.08	.00*	.44
Social Interest . . .	.83	1.46	.90	1.61	.65	.47
Escape Interest . . .	.62	1.60	.35	1.63	.07*	.93

*Significant at .10

[a]Means calculated for 137 females and 70 males.

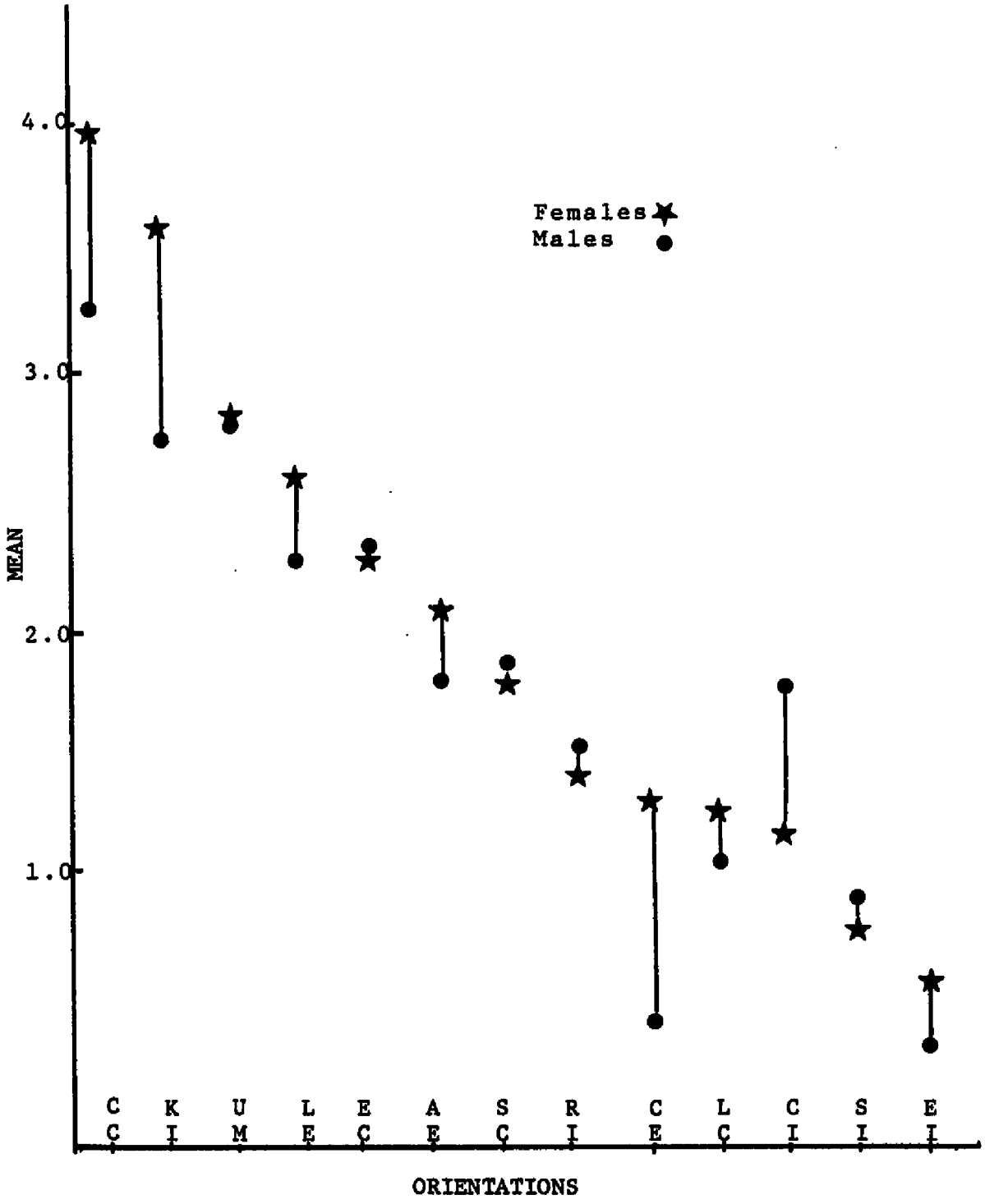

FIGURE 4.2--Differences in educational motivation orientations by the variable of sex

of not seeking University service to satisfy that need. Females had a 12.8% greater need for planning a career, and they also indicated an 8.1% greater incidence of not seeking University service to satisfy that need.

Overall, need levels were similar for each sex, except for planning a career. Females were more likely to indicate incidences of not seeking University service to satisfy needs at pre-entry.

Post-entry. At post-entry, one need related significantly. Males had a 6.2% greater need for updating learning skills, whereas females indicated a greater incidence of not seeking University service to satisfy that need.

Overall, need levels were similar for each sex at post-entry; however, females tended more often not to have sought University service to satisfy their post-entry needs. Both indicated a 20% incidence of this for solving problems, while females indicated a 13% to 35% greater incidence for updating learning skills, planning a career, and finding University services.

Pre-entry and Post-entry Service Use and Satisfaction

No reliable statistical procedure could be applied to University service use and satisfaction data because the distribution per category of sex was usually less than 25.

TABLE 4.13--Pre-entry and post-entry needs related significantly to the variable of sex

Needs	Female #	Female % (N=137)	Male #	Male % (N=70)	Difference %	Significance
Yes, had a need at pre-entry for:						
planning studies	74	54.0	39	55.8		.096*
obtaining finances . . .	40	29.0	21	30.0		.66
planning a career . . .	39	28.5	11	15.7	+12.8 F	.088*
choosing a college . . .	32	23.4	16	22.9		.87
assessing aptitudes . .	30	21.9	12	17.1		.17
updating skills	7	5.1	6	8.6		.38
Had a need a pre-entry, but sought no University service to satisfy it:						
planning studies	15	10.9	2	2.9	+ 8.0 F	
obtaining finances . . .	7	5.1	2	2.9		
planning a career . . .	17	12.4	3	4.3	+ 8.1 F	
choosing a college . . .	6	4.4	4	5.7		
assessing aptitudes . .	19	13.9	4	5.7	+ 8.2 F	
updating skills	4	2.9	2	2.9		
Yes, had a need at post-entry for:						
planning studies	88	61.4	39	55.7		.32
obtaining finances . . .	51	37.2	26	37.1		.59
finding services	45	32.8	22	31.4		.42
planning a career . . .	35	25.5	18	25.7		.28
solving problems	26	18.9	12	17.1		.66
updating skills	13	9.5	11	15.7	+ 6.8 M	.07*

TABLE 4.13 (cont'd)

Needs	Female #	Female % (N=137)	Male #	Male % (N=70)	Difference %	Significance
Had a need a post-entry, but sought no University service to satisfy it:						
planning studies	2	1.5	0	.0		
obtaining finances . . .	4	2.9	4	5.7		
finding services	10	7.4	2	2.9		
planning a career . . .	8	5.9	1	1.4		
solving problems	9	6.6	6	9.0		
updating skills	7	5.2	2	2.9		

*Significant at .10.

A review of the data did show that from 54.5% to 62% of the pre-entry usage was accounted for by females, except for the Office of the Assistant Dean for Lifelong Education, which had a 97.3% female share. At post-entry 60.2% to 71.1% was accounted for by females, except for the Assistant Dean's office, which had a 86.4% female share.

A review of satisfaction ratings for University services used showed that at pre-entry females rated faculty and staff .53 higher for assistance with planning their studies. Males rated faculty and staff .53 higher for career planning assistance and .79 higher for assistance with choosing a college; and .52 higher for assistance received from the Office of Financial Aids. At post-entry, females rated advisors 1.21 higher for career planning assistance and .68 higher for assistance with finding services. They also rated other faculty and staff .52 higher for assistance with planning their studies and .56 higher for career planning assistance. Males rated advisors .29 higher for assistance with planning their studies. Overall ratings of particular services at both pre-entry and post-entry showed no important differences.

TABLE 4.14--Pre-entry satisfaction with University services summarized by the variable of sex[a]

Service/Sex	Planning Studies		Obtaining Finances		Choosing College		Career Planning		Assessing Aptitudes		Updating Skills		Overall		% by sex
	#	Mean	#	Mean	#	Mean	#	Mean	#	Mean	#	Mean	#	Mean	
Faculty and Staff . . . (Female)	39	3.94	2	2.50	12	3.33	16	3.38	6	3.83	1	5.00	76	3.69	56.7
(Male)	34	3.41	0	n.a.	7	3.86	12	4.17	4	3.75	1	4.00	58	3.66	43.2
Assistant Dean Lifelong Education . . . (Female)	17	4.23	8	4.25	5	5.00	5	5.00	1	5.00	0	n.a.	36	4.47	97.3
(Male)	0	n.a.	0	n.a.	0	n.a.	0	n.a.	1	4.00	0	n.a.	1	4.00	2.7
Office of Admissions and Scholarships . (Female)	17	2.35	14	2.79									31	2.55	62.0
(Male)	11	2.55	8	2.63									19	2.58	38.0
Office of Financial Aids . (Female)			20	2.25									20	2.25	62.0
(Male)			13	2.77									13	2.77	38.0
Adult Counseling Service . (Female)	3	3.33			1	5.00			2	3.00			6	3.17	54.5
(Male)	1	3.00			1	2.00			3	4.00			5	3.40	45.5

[a]Contacts for Off-campus Extension, Career Resource Center, and Evening College/LRC Class were less than 10 and not reported.

TABLE 4.15--Post-entry satisfaction with University services summarized by the variable of sex[a]

Service/Sex	Planning Studies		Obtaining Finances		Finding Services		Career Planning		Solving Problems		Updating Skills		Overall		% by sex
	#	Mean	#	Mean	#	Mean	#	Mean	#	Mean	#	Mean	#	Mean	
Advisors . . . . (Female)	75	3.46	5	4.00	19	4.06	14	3.71	6	4.80	0	n.a.	119	3.68	71.7
(Male)	28	3.75	1	3.50	13	3.38	10	2.50	3	4.33	2	5.00	57	3.52	28.3
Faculty and Staff . . . . (Female)	24	4.05	3	3.33	21	3.70	11	3.78	3	5.00	0	n.a.	62	3.89	60.2
(Male)	18	3.53	0	n.a.	10	3.60	9	3.22	2	4.00	2	5.00	41	3.57	39.8
Office of Financial Aids . (Female)			36	2.94									36	2.94	64.3
(Male)			20	3.16									20	3.16	35.7
Assistant Dean Lifelong Education . . . (Female)	4	5.00	8	4.71	3	4.00	3	5.00	1	3.00	0	n.a.	19	4.61	86.4
(Male)	1	4.00	0	n.a.	0	n.a.	2	2.50	0	n.a.	0	n.a.	3	3.00	13.6
Counseling Center . . . . (Female)	3	2.00			3	3.00	4	2.75	7	2.17			17	2.42	65.4
(Male)	4	3.00			2	5.00	2	1.00	1	0.00			9	2.67	34.6

[a]Contacts for Career Resource Center, Placement Services, Student Employment Service, Learning Resource Center, and Women's Resource Center were less than 10 and not reported.

Analysis of Sample Data by the Variable of Age

Demographic Characteristics

A chi-square procedure tested the null hypothesis: The variable of age was not significantly related .10 to any of the demographic characteristics of the mid-life sample. Appendix B reports those non-significant items not discussed in this section.

Academic Background. Three items related significantly: age of first enrollment, period stopped out, and credit load. Since the first two would naturally have an age relationship, they are not reported further. Those ages 30 to 34 tended to be enrolled more full-time, while those 40 years old and over tended to be enrolled more for one course only.

Although not statistically significant, there were important percentage differences in college enrollment. About 13% more students age 40 or older enrolled in the Liberal Arts colleges, and about 11% more students under age 40 enrolled in the Professional/Technical ones.

Socio-economic Background. Both marital status and financial dependents related significantly. Those in their early thirties were more likely never to have married. Those in their mid to late thirties were more likely to be separated or divorced. Those 40 years old and over were most likely to be married living with their spouse. Those in their mid to late thirties were most

likely to claim financial dependents. Those ages 30 to 34 were likely to have more pre-school children dependents, those ages 35 to 39 more elementary children, those 35 and older more junior and senior high school students, and those age 40 and over more children in college. As age increased, fewer students claimed a spouse as a dependent.

Financial Background. Annual cost and pay foregone related significantly. Those in their early thirties claimed the highest annual cost and the most pay foregone.

Summary. Generally, differences in demographic characteristics related to age were difficult to decipher. It appeared that sometimes a division existed at about the mid-thirties, and other times at about age 40, depending on the characteristic being examined.

Educational Motivations

Factors. An F-test analysis of variance procedure tested the null hypothesis: Age groups in the sample did not differ significantly .10 in their overall ratings of educational motivation factors.

Six factors differed significantly. However, the patterns of difference were unclear. Those in their early thirties rated "to prepare for a career in a new field" highest. Those in their late forties rated "to learn for the enjoyment of learning" highest. They also rated "to gain fresh perspective on problems I deal with"

TABLE 4.16--Demographic characteristics related significantly to the variable of age

Variables	30 to 34		35 to 39		40 to 44		45 to 49		Significance
	#	% (N=67)	#	% (N=64)	#	% (N=44)	#	% (N=32)	
Credit Load:									.068
Part-time	34	50.8	43	67.2	29	65.9	19	59.4	
Full-time	32	47.8	21	32.8	13	29.5	13	40.7	
No answer	1	1.4			2	4.6			
Major College Group:									.565
Liberal Arts	15	22.4	13	20.3	16	36.4	10	31.3	
Social Sciences	15	22.4	15	23.4	12	27.3	8	25.0	
Professional/Human Services	19	28.4	21	32.8	8	18.2	10	31.3	
Professional/Technical	17	25.4	14	21.9	7	15.9	3	9.4	
No answer	1	1.5	1	1.6	1	2.3	1	3.1	
Marital Status:									.023
Never married	13	19.4	4	6.3	1	2.3	2	6.3	
Divorced or separated	11	16.4	20	31.3	10	22.7	7	21.9	
Married with spouse	43	64.2	40	62.4	33	75.0	23	71.8	
Financial Dependents:									.007
None	34	50.7	23	35.9	21	47.7	20	62.5	
Pre-school children	17	25.4	9	14.1	3	6.8	1	3.1	
Elementary children	16	23.9	22	34.4	11	25.0	5	15.6	
Junior or senior high school children	9	13.4	22	34.4	16	36.4	9	28.1	
Children in college	0	.0	2	3.1	8	18.1	8	25.0	
Spouse	21	31.3	15	23.4	9	20.5	6	18.8	
Parents	2	3.0	2	3.1	0	.0	1	3.1	

TABLE 4.16 (cont'd)

Variables	30 to 34		35 to 39		40 to 44		45 to 49		Signif-icance
	#	% (N=67)	#	% (N=64)	#	% (N=44)	#	% (N=32)	
Annual Cost:									.038
Less than $2,000 .	33	49.3	43	67.2	36	81.8	21	65.6	
$2,001 to $4,000 .	17	25.4	12	18.8	5	11.4	10	31.3	
$4,001 to $6,000 .	6	9.0	5	7.8	2	4.5	1	3.1	
Over $6,000 . . .	6	9.0	2	3.1	0	.0	0	.0	
No answer	5	7.5	2	3.1	1	2.3	0	.0	
Pay Foregone:									
Zero	15	22.4	25	39.1	18	40.9	14	43.8	
Less than $5,000 .	6	9.0	8	12.5	4	9.1	4	12.5	
Over $5,000 . . .	24	35.8	16	25.0	7	15.9	5	15.7	
No answer	22	32.8	15	23.4	15	34.1	9	28.0	

highest. Ratings for "to improve my financial future" decreased as students got older. "To have time away from my family" was rated lowest by those ages 30 to 34. "To meet requirements of my present employer" was rated highest by those ages 35 to 39. Although not statistically significant at .10, "to examine future life goals" was rated highest by those in their early thirties, and "to improve personal relationships with other people" was rated highest by those in their late forties.

Clusters. An F-test analysis of variance procedure tested the null hypothesis: Age groups in the sample did not differ significantly .10 in their overall ratings of educational motivation orientations.

Two orientations differed significantly. Ratings for Upward Mobility decreased from 3.17 to 2.47 as students got older, and for Escape Interest they were lowest among those in their early thirties.

Overall, the pattern of ratings was mixed. Five highest ratings were reported by both those in their early thirties and their late forties. Three highest ratings were reported by those ages 40 to 44, and two by those ages 35 to 39. Some patterns suggested were:

Single Age Group Differences: Highest ratings were reported for Career Change by those ages 30 to 34, and for Life Concerns by those ages 45 to 49.

TABLE 4.17--Educational motivation factors related significantly to the variable of age

Factors	30 to 34 Mean (N=67)	35 to 39 Mean (N=64)	40 to 44 Mean (N=44)	45 to 49 Mean (N=32)	Significance
To prepare for a career in a new field	4.16	3.60	3.63	3.69	.025
To improve my financial future . . .	3.97	3.73	3.45	3.06	.038
To learn for the enjoyment of learning	2.99	2.92	3.25	4.06	.016
To gain fresh perspective on problems I deal with . .	1.81	1.62	1.88	2.53	.056
To have time away from my family . . .	.25	.77	.81	.66	.018
To meet the requirements of my present employer . . .	.29	.75	.39	.13	.030
To examine future life goals	3.07	2.34	2.87	2.48	.105*
To improve personal relationships with other people	1.27	1.19	1.09	1.81	.104*

*Not related statistically by the .10 definition.

Linear Relationship: Ratings for Upward Mobility decreased, and for Career Entry/Re-entry increased, as students got older.

Thirties/Forties Division: Ratings for Knowledge Interest were higher for those in their forties, and higher for External Career Interest for those in their thirties.

Middle Years Division: Those in the middle years from age 35 to age 44 rated Career Improvement and Escape Interest higher, and Social Concern and Academic Exploration lower.

No Pattern: Ratings for Social Interest and Renewal Interest were similar across all age groups, and for Life Exploration they were irregular.

Pre-entry and Post-entry Needs

A chi-square procedure tested the null hypothesis: The variable of age was not significantly related .10 to any of the expressed pre-entry and post-entry needs of the mid-life sample.

Pre-entry. No needs were significantly related. Overall, few important percentage differences were found. From 14.7% to 18.5% more of those under age 45 expressed the need for obtaining finances, while 10.3% to 13.8% more of those in their forties expressed the need for planning a career.

TABLE 4.18--Educational motivation orientations related significantly to the variable of age

Orientations	30 to 34 Mean (N=67)	35 to 39 Mean (N=64)	40 to 44 Mean (N=44)	45 to 49 Mean (N=32)	Significance
Career Entry/Re-entry	.72	1.04	1.30	1.44	.11
Upward Mobility . . .	3.17	3.05	2.68	2.47	.09*
Career Change	4.16	3.48	3.55	3.69	.14
Life Concerns	1.03	1.20	1.18	1.69	.18
External Career . . .	2.58	2.35	1.97	2.05	.30
Knowledge Interest . .	3.22	3.16	3.49	3.83	.15
Academic Exploration .	2.18	1.87	1.92	2.19	.61
Social Concern	1.95	1.68	1.68	1.90	.67
Career Improvement . .	1.26	1.57	1.44	1.33	.60
Escape Interest . . .	.26	.64	.80	.50	.03*
Renewal Interest . .	1.36	1.42	1.51	1.50	.94
Life Exploration . . .	2.60	2.36	2.69	2.46	.69
Social Interest . . .	.94	.84	.79	.80	.85

*Significant at .10.

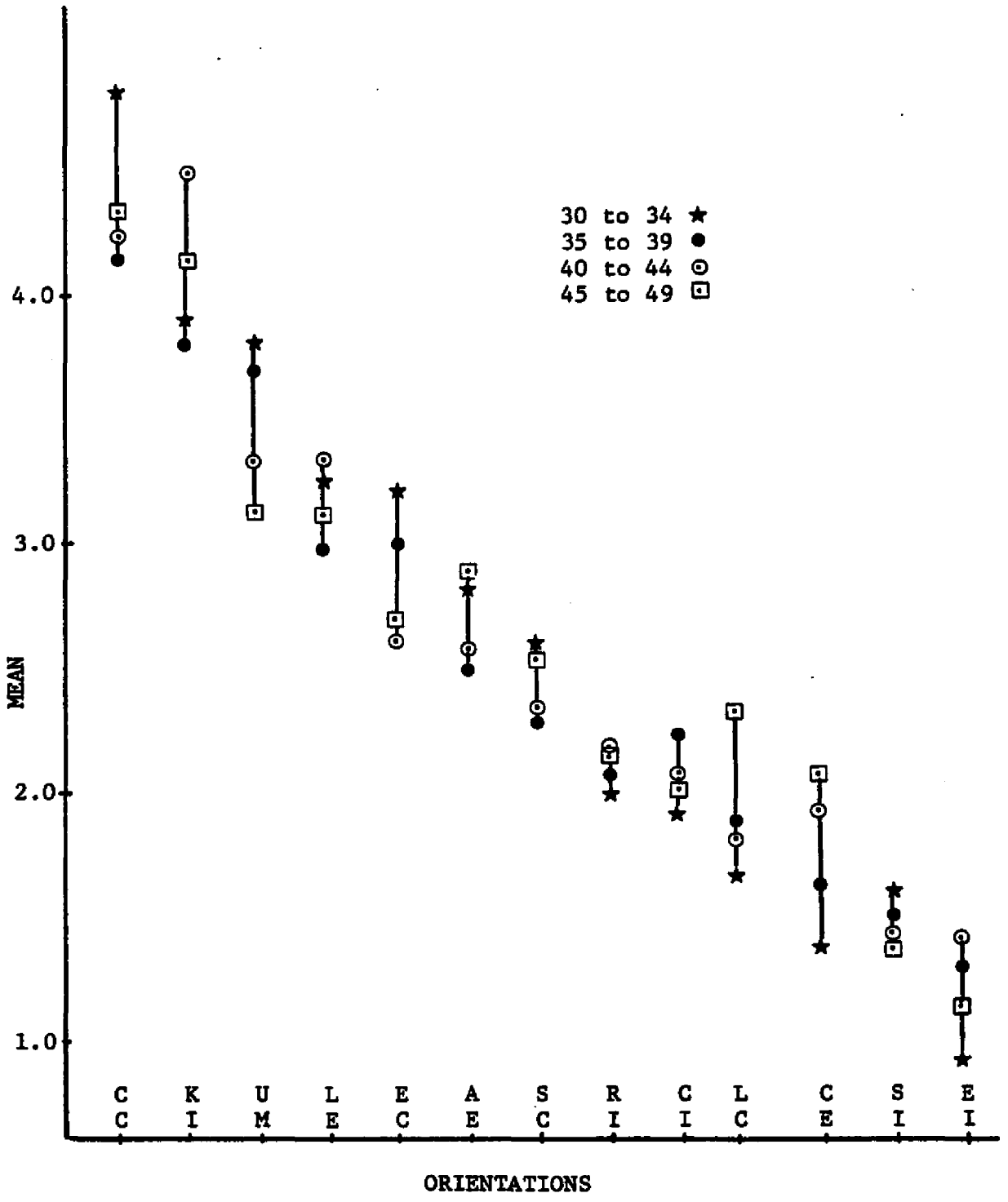

FIGURE 4.3--Differences in educational motivation orientations by the variable of age

Post-entry. No needs were significantly related. Overall, few important percentage differences were found. Those in their late forties, however, tended to express needs less often, except for planning their studies. Summary data on needs are reported in Appendix B.

Pre-entry and Post-entry Service Use and Satisfaction

No reliable statistical procedure could be applied to University service use and satisfaction data because the distribution per age group was usually less than 10. These data were not reported.

Analysis of Sample Data by the Variable of College

Demographic Characteristics

A chi-square procedure tested the null hypothesis: The variable of college was not significantly related .10 to any of the demographic characteristics of the mid-life sample.

For analysis, four major college groups were designated: Liberal Arts (College of Arts and Letters (28), Justin Morrill College (18), and University College (8)--total 54); Social Sciences (College of Social Science (49), and James Madison College (1)--total 50); Professional/ Human Services (College of Education (20), College of Human Ecology (19), College of Business (15), College of Communication Arts (3), and College of Urban Development

(1)--total 58); and Professional/Technical (College of Natural Science (16), College of Engineering (9), College of Agriculture and Natural Resources (16)--total 41). Appendix B reports those non-significant items not discussed in this section.

Sex. It was reported previously (page 77) that the variable sex realted significantly to college of enrollment.

Academic Background. Class level, previous degree, and credit load related significantly. Those in the Professional/Technical colleges were more likely to be seniors and to have earned a baccalaureate degree previously. Those in Professional/Human Services colleges were leastly likely to have earned a baccalaureate degree previously. Those in the Liberal Arts and Social Sciences colleges were more likely enrolled part-time.

Socio-economic Background. Occupations related significantly. Those in the Professional/Technical and Professional/Human Services colleges were more likely employed in professional-technical occupations. Those in Liberal Arts and Social Sciences colleges were more likely employed in clerical-sales occupations.

Financial Background. Annual pay foregone related significantly. Those in Liberal Arts and Social Sciences colleges were more likely not foregoing pay to attend college.

TABLE 4.19--Demographic characteristics related significantly to the variable of college

Variables	Liberal Arts # % (N=54)	Social Sciences # % (N=50)	Professional/ Human Services # % (N=58)	Professional/ Technical # % (N=41)	Signif-icance
Class Level:					.081
Freshmen	3 5.6	1 2.0	1 1.7	3 7.3	
Sophomores	4 7.4	3 6.0	4 6.9	2 4.9	
Juniors	23 42.6	19 38.0	26 44.8	5 12.2	
Seniors	24 44.4	27 54.0	27 46.6	29 70.7	
No answer				2 4.9	
Previous Degree:					.006
Yes	7 13.0	5 10.0	1 1.7	10 24.4	
Credit Load:					
Part-time	42 77.7	30 60.0	31 53.4	20 48.8	
Full-time	11 20.4	19 38.0	27 46.6	20 48.7	
No answer	1 1.9	1 2.0		1 2.5	
Occupations:					.004
Professional-Technical	6 11.1	7 14.0	17 29.3	16 39.0	
Manager-Administrative	11 20.4	8 16.0	2 3.4	5 12.2	

TABLE 4.19 (cont'd)

Variables	Liberal Arts # % (N=54)	Social Sciences # % (N=50)	Professional/ Human Services # % (N=58)	Professional/ Technical # % (N=41)	Signif-icance
Clerical-Sales	11 20.4	7 14.0	3 5.2	3 7.3	
Agriculture and Forestry	2 3.7	0 .0	0 .0	2 4.9	
Tradesmen	2 3.7	3 6.0	4 6.9	3 7.3	
Miscellaneous	6 11.1	11 22.0	16 22.6	8 19.5	
Pay Foregone:					.001
Zero	26 48.1	24 48.0	10 17.2	11 26.8	
Less than $5,000	6 11.1	1 2.0	12 20.6	2 4.9	
Over $5,000	7 13.0	13 26.0	18 31.0	13 31.8	
No answer	15 27.8	12 24.0	18 31.0	15 36.5	

Educational Motivations

An F-test analysis of variance procedure tested the null hypothesis: College groups in the sample did not differ significantly .10 in their overall ratings of educational motivation orientations. A test of factors was not attempted.

Two orientations differed significantly. Those in Professional/Human Services colleges rated External Career Interest .70 to 1.30 higher, and those in Liberal Arts colleges rated it .57 to 1.30 lower. Those in Professional/Technical colleges rated Career Improvement .42 to .76 higher than any other college group.

Pre-entry and Post-entry Needs

A chi-square procedure tested the null hypothesis: The variable of college was not significantly related .10 to any of the expressed pre-entry and post-entry needs of the mid-life sample.

Pre-entry. No needs were significantly related. Overall, those in the two professional college groups expressed fewer needs. Those in Liberal Arts and Social Sciences colleges expressed a 21.8% to 22.9% greater need than other college groups for planning their studies, and 12.2% to 14% greater need for assessing their aptitudes.

TABLE 4.20--Educational motivation orientations related significantly to the variable of college

Orientations	Liberal Arts Mean (N=54)	Social Sciences Mean (N=50)	Professional/ Human Services Mean (N=58)	Professional/ Technical Mean (N=41)	Signif-icance
External Career	1.70	2.27	2.99	2.29	.00*
Career Improvement	1.14	1.14	1.48	1.90	.02*
Life Concerns	1.17	1.47	1.41	.78	.11
Life Exploration	2.67	2.73	2.42	2.11	.14
Knowledge Interest	3.49	3.33	3.53	2.88	.14
Career Change	3.42	3.94	4.11	3.63	.19
Social Concern	1.77	2.16	1.70	1.62	.26
Academic Exploration	2.25	2.06	2.06	1.63	.35
Career Entry/Re-entry	.91	.92	1.35	.98	.36
Renewal Interest	1.50	1.17	1.40	1.68	.39
Social Interest	.65	.96	.92	.83	.48
Escape Interest	.50	.72	.50	.38	.58
Upward Mobility	2.82	2.93	3.04	2.93	.91

*Significant at .10.

Those in Social Science colleges expressed 9.9% to 19.8% greater need for choosing a college, 8.1% to 14.9% greater for planning a career, and 6.7% to 11.6% greater for obtaining finances. They also expressed a greater incidence of not seeking University service to satisfy five out of the six needs surveyed.

Post-entry. Only the need for planning studies was significantly related. Those in Professional/Technical colleges expressed 16% to 30% lesser need overall.

Generally, those in Social Science colleges expressed 11.5% to 19.7% greater need for assistance with solving problems. Otherwise, differences were minimal. Summary data on needs are reported in Appendix B.

Pre-entry and Post-entry Service Use and Satisfaction

No reliable statistical procedure could be applied to University use and satisfaction data because distribution per college group was usually less than 25. Summary data are presented in Appendix B.

Analysis of Selected Sample Data by the Variable of Previous Degree

The researcher had intended to, but could not, exclude second bachelor's candidates from the study. It was assumed that these more educationally experienced students would differ greatly from the students with less academic experience. A further analysis of some of the

data, reported in Appendix C, supported this assumption. For example, second bachelor's were significantly over-represented among males. They were more likely than other students in the sample to be seniors, to have had experience in a four year public college, to be enrolled in Professional/Technical colleges, to have never married, to have enrolled the first time in college in their teens, to be in their early thirties, and to have used GI benefits. They generally rated all educational motivation orientations lower, except for Career Improvement for which their rating was .46 higher. Their expressed needs were generally less, especially for planning their studies and finding University services.

Formation of Educational Motivation Groups by Factor Analysis

The Blind Multiple Groups Program PACKAGE analysed the educational motivation orientations of 136 students. The proportion of variance accounted for by the 12 orientations ranged from .24 to .2. Ten groups were formed based on the 136 subjects largest factor loading in the final varimax rotation. The number of subjects in each group and their reliability coefficient alphas were: Group A--47 (.99), Group B--44 (.98), Group C--19 (.96), Group D--8 (.92), Group E--5 (.68), Group F--4 (.76), Group G--2 (.36), Group H--4 (.76), Group I--2 (.69), and Group J--1 (1.00). Because the number of subjects was

was small, or the alpha scores low and thus not reliable, Groups E through J were dropped from further analysis.

Differences Among Educational Motivation Groups

A major question was: In what ways did these groups differ in their overall pattern of educational motivation orientations? Therefore, an F-test analysis of variance procedure tested the null hypothesis: Educational Motivational Groups A, B, C, and D did not differ significantly .10 in their educational motivation orientations.

Escape Interest and Social Interest were not significantly different. An examination of the data showed that, among the eleven significantly different orientations, Knowledge Interest and Social Concerns were not powerful discriminators.

The following are the ways in which these four groups appeared to differ:

Group A--External Career Influence Oriented: Composed of 47 subjects, they rated Upward Mobility, Career Change, External Career Interest, and Knowledge Interest high. Generally, they were career oriented, rating External Career Influence 1.51 to 2.78 higher than any other group.

Group B--Exploration Oriented: Composed of 44 subjects, they rated Upward Mobility, Career Change, Life Exploration, Academic Exploration, and Knowledge Interest

high. Although they rated Life Concerns 1.44, that was the highest rating overall for that orientation. Generally, they were exploration oriented, rating Life Exploration 1.15 to 1.70 higher, and Academic Exploration 1.40 to 1.67 higher than the other groups. They rated Career Improvement .54 to 2.06 lower, and External Career Interest .89 to 2.78 lower than the other groups.

Group C--Career Improvement Oriented: Composed of 19 subjects, they rated Upward Mobility, Career Improvement and Knowledge Interest high, and External Career Interest moderately. Generally, they were career oriented, rating Career Improvement 1.06 to 1.66 higher than the other groups. They rated Career Change 3.24 to 3.70 lower than the other groups.

Group D--Renewal Oriented: Composed of 8 subjects, they rated Career Change, Career Entry/Re-entry, Renewal Interest, and Knowledge Interest high, and Life Exploration moderately. Generally, they were renewal oriented, rating Renewal Interest 1.17 to 1.70 higher, and Career Entry/Re-entry higher than any other group. They rated Upward Mobility 1.95 to 2.65 lower than any other group.

Description of Educational Motivation Groups

Demographic Characteristics

The examination of several demographic characteristics showed that in several respects these educational

TABLE 4.21--Educational motivation orientations of educational motivation orientation groups

Orientations	External Career	Exploration	Career Improvement	Renewal	Significance
	Mean (N=47)	Mean (N=44)	Mean (N=19)	Mean (N=8)	
Career Change	4.64	4.18	.94	4.63	.000
Knowledge Interest . . .	3.07	4.00	2.87	3.81	.002
Upward Mobility	3.65	2.95	3.34	1.00	.000
External Career	3.77	.99	2.26	1.88	.000
Life Exploration	1.73	3.43	1.84	2.28	.000
Academic Exploration . .	1.48	2.98	1.58	1.31	.000
Social Concern	1.17	2.29	1.16	1.96	.000
Renewal Interest	1.18	1.38	1.71	2.88	.060
Career Improvement . . .	1.34	.80	2.86	1.20	.000
Career Entry/Re-entry .	.87	.92	.37	3.00	.000
Life Concerns	.62	1.44	.55	.63	.001
Social Interest	.57	.93	.54	.62	.240*
Escape Interest	.44	.30	.50	.19	.610*

*Not significant .10.

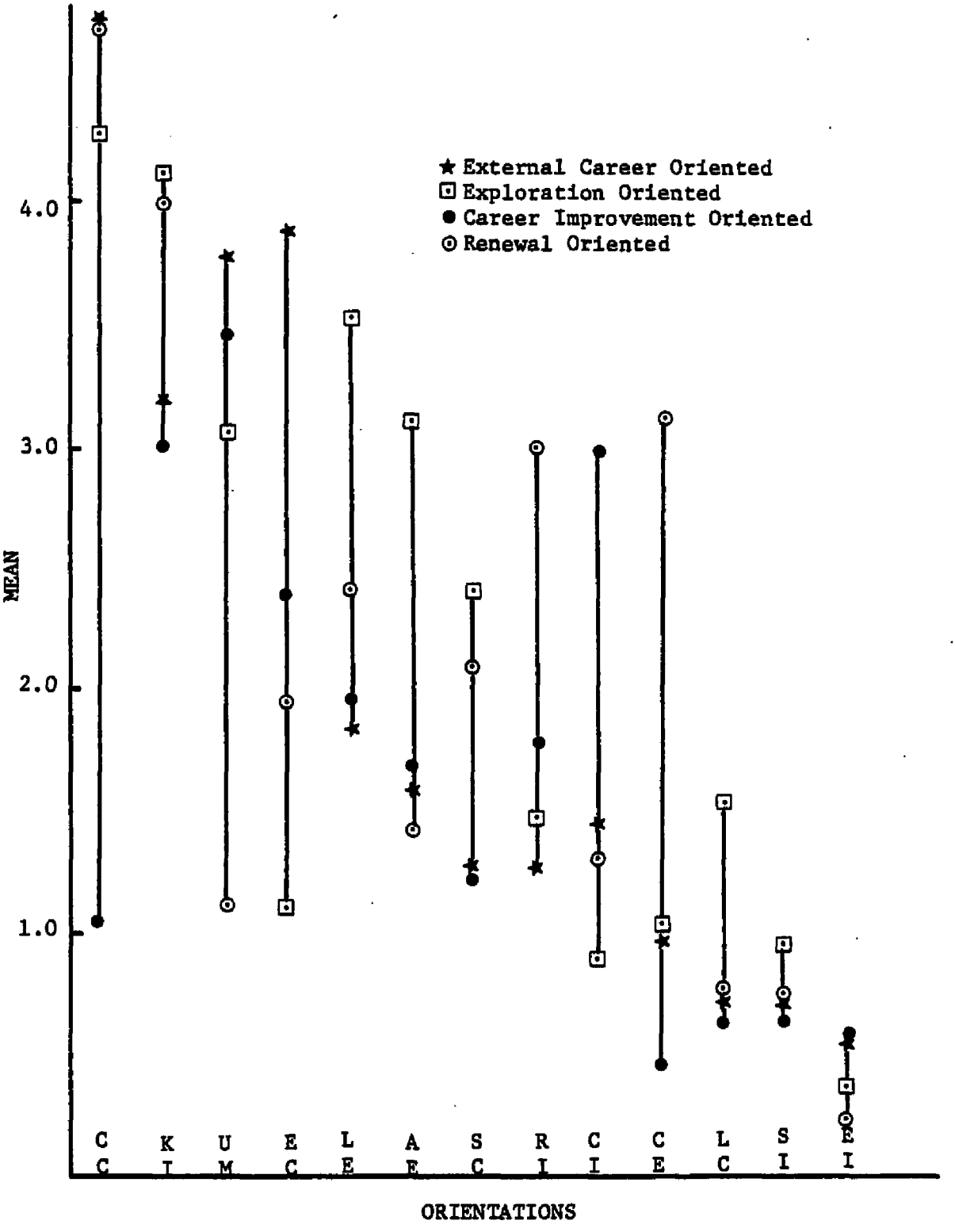

FIGURE 4.4--Differences in educational motivation orientation ratings of educational motivation groups

motivation groups were similar. Most were enrolled part-time, had attended one college previously (usually a junior or community college), had stopped out of college 10 years or less, were married with a spouse, had financially dependent children in elementary or junior and senior high school, expended $2,000 or less annually to attend MSU, and used thir own or their spouse's earnings and saving to pay for college.

In other respects, they were different as follows:

External Career Influence Oriented: They were youngest overall (36.1 mean years), with 77% of them under age 40. The sex mix was 70% female to 30% male. They enrolled frequently in Professional/Human Services colleges (40%), were likely to have first enrolled in their teens (68.1%), had the most full-time enrollment (44.6%), were principally seniors (60%), had the highest divorce and separation rate (29.8%), and held Professional-Technical positions or were homemakers.

Exploration Oriented: They were most evenly distributed by age, with about half above and below age 40. The sex mix was about 70% female to 30% male. They were most likely to have first enrolled in college in their thirties or forties (40.9%), were enrolled frequently in Liberal Arts colleges (38.9%), were principally juniors (54.5%), had the greatest representation among freshmen and sophomores (20.4%), and held Professional-Technical,

Manager-Administrative, Clerical-Sales, or homemaker positions.

Career Improvement Oriented: They were highly represented by those in their late thirties (52.6%), and had the greatest representation of males (42.1%). They were just as likely to have first enrolled in college in their teens or their twenties, were frequently enrolled in Professional/Technical colleges (36.8%), and held the greatest percentage of Professional-Technical (42.1%) and Manager-Administrative (26.3%) positions.

Renewal Oriented: They were the oldest group overall (39.9 mean years), with 75% in their forties. They were all females, had first enrolled in college in their teens, were frequently enrolled in Professional/ Human Services colleges (50%), and were principally seniors (75%). All were married living with a spouse. All virtually had no financially dependent children. And most were not employed.

Pre-entry and Post-entry Needs

Pre-entry. Expressed need for planning studies, planning a career, and choosing a college were similar among these groups. The Renewal Oriented group expressed 12.5% to 24.3% lower need for obtaining finances. The Exploration Oriented group expressed 8% to 19.7% greater need for assessing aptitudes and for updating learning skills.

TABLE 4.22--Selected demographic characteristics of educational motivation groups

Variables	External Career # (N=47)	%	Exploration # (N=44)	%	Career Improvement # (N=19)	%	Renewal # (N=8)	%
Age:								
30 to 34	18	38.3	13	29.5	2	10.5	2	25.0
35 to 39	18	38.3	9	20.5	10	52.6	0	.0
40 to 44	6	12.8	14	31.9	5	26.3	4	50.0
45 to 49	5	10.6	8	18.2	2	10.5	2	25.0
Mean	(36.1)		(38.7)		(38.7)		(39.9)	
Mode	(31.0)		(42.0)		(37.0)		(40.0)	
Median	(35.0)		(39.0)		(39.0)		(40.0)	
Sex:								
Female	33	70.2	30	71.4	11	57.9	8	100.0
Male	14	29.8	14	28.6	8	42.1	0	.0
College Groups:								
Social Sciences	11	23.4	11	26.2	5	26.3	2	25.0
Liberal Arts	8	17.0	16	38.9	3	15.8	2	25.0
Professional/Human Services	19	40.4	10	23.8	4	21.1	4	50.0
Professional/Technical	9	19.1	5	11.9	7	36.8	0	.0
Class Level:								
Freshman and Sophomore	3	6.4	9	20.4	1	5.3	1	12.5
Junior	16	34.0	24	54.5	8	42.1	0	.0
Senior	28	59.6	11	25.0	10	52.6	7	75.0
Credit Load:								
Part-time	26	55.3	31	72.1	15	79.0	5	62.5
Full-time	21	34.7	13	27.9	4	21.0	3	37.5
Mean	(10.5)		(8.7)		(8.3)		(9.1)	
Mode	(12.0)		(4.0)		(4.0)		(9.0)	
Median	(10.0)		(8.0)		(8.0)		(8.5)	

TABLE 4.22 (cont'd)

Variables	External Career		Exploration		Career Improvement		Renewal	
	# (N=47)	%	# (N=44)	%	# (N=19)	%	# (N=8)	%
Previous College:								
None	11	23.4	8	19.0	3	15.8	3	37.5
Community college	31	66.0	28	63.6	14	73.7	3	37.5
Private four year	6	12.8	3	13.6	3	15.8	1	12.5
Public four year	15	31.9	5	11.9	6	31.6	2	25.0
First Enrollment Age:								
Teens	32	68.1	14	31.8	8	42.1	6	75.0
Twenties	8	17.0	12	27.2	8	42.1	0	.0
Thirties	6	12.8	12	27.2	3	15.8	2	25.0
Forties	1	2.1	6	13.7	0	.0	0	.0
Period Stopped Out:								
Less than 5 years	22	46.8	23	52.3	10	52.6	2	25.0
More than 5 years	22	46.8	16	36.4	8	42.1	6	75.0
No answer	3	6.4	5	11.3	1	5.3	0	.0
Mean	(7.6)		(6.3)		(6.5)		(12.4)	
Mode	(10.0)		(.0)		(5.0)		(12.4)	
Median	(6.0)		(9.0)		(5.0)		(12.0)	
Marital Status:								
Married living with spouse	28	59.6	30	68.2	14	73.7	8	100.0
Divorced or separated	14	29.8	9	20.5	4	21.1	0	.0
Never married	5	10.6	5	11.3	1	5.3	0	.0
Financial Dependents:								
Pre-school children	7	14.9	4	9.0	2	10.5	0	.0
Elementary children	13	27.7	13	29.5	6	31.6	0	.0
Junior or senior high school children	11	23.4	17	38.6	9	47.4	1	12.5
Children in college	5	10.6	4	9.0	3	15.8	0	.0
Children out of school	1	2.1	2	4.5	1	5.3	0	.0

TABLE 4.22 (cont'd)

Variables	External Career		Exploration		Career Improvement		Renewal	
	# (N=47)	%	# (N=44)	%	# (N=19)	%	# (N=8)	%
Major Occupations:								
Professional-Technical	18	38.3	7	15.9	8	42.1	0	.0
Manager-Administrative	2	4.3	6	13.6	5	26.3	0	.0
Homemakers	10	21.3	11	25.0	0	.0	6	75.0
Clerical-Sales	4	8.5	8	18.2	2	10.5	0	.0
Tradesmen	2	4.3	2	4.5	0	.0	0	.0
Service	0	.0	2	4.5	2	10.5	0	.0
Miscellaneous	0	.0	4	9.1	0	.0	1	12.5
No answer	11	23.4	4	9.1	1	5.3	1	12.5
Annual Cost:								
$2,000 or less	31	66.0	31	70.5	13	68.4	6	75.0
$2,001 to $4,000	12	25.5	7	15.9	3	15.8	2	25.0
Above $4,000	4	8.5	3	6.8	2	10.5	0	.0
No answer	0	.0	3	6.8	1	5.3	0	.0
Financial Sources:								
Own earnings or savings	35	74.5	33	75.0	18	94.7	4	50.0
Spouse earnings or savings	20	42.6	18	40.9	9	47.7	6	75.0
Scholarship, fellowship, or grant from MSU	15	31.9	13	29.5	5	26.3	2	25.0
Educational loan from MSU	7	14.9	5	11.4	2	10.5	0	.0
GI benefits	8	17.0	6	13.6	2	10.5	0	.0
Employer's plan	6	12.8	8	18.2	3	15.8	0	.0
Paid release plan	2	4.3	4	9.1	1	5.3	0	.0
Loan outside MSU	4	8.5	2	4.5	2	10.5	0	.0
Inheritance, loans, or gifts	6	12.8	5	11.4	0	.0	0	.0

The Exploration Oriented group appeared most often not to seek University service when they had a need. However, the numbers represented are small and percentage differences are misleading.

Post-entry. Expressed need for planning studies was similar among these groups. The Renewal Oriented group tended to express the least needs overall. The other three groups were similar in their expressed need for obtaining finances and solving problems. The Exploration Oriented group had the greatest need for finding University services and planning a career, followed next by the External Career Oriented group. The Exploration Oriented group and the Career Improvement group had the greatest expressed need for updating learning skills.

The Exploration Oriented group and the External Career Oriented group appeared most often not to seek University service when they had a need. However, the numbers represented are small and percentage differences are misleading.

Pre-entry and Post-entry Service Use and Satisfaction

The number of contacts per University service surveyed was small in most instances so that no meaningful comparisons among educational motivation groups could be made. These data are reported in Appendix D.

TABLE 4.23--Pre-entry and post-entry needs of educational motivation groups

Variables	External Career		Exploration		Career Improvement		Renewal	
	# (N=47)	%	# (N=44)	%	# (N=19)	%	# (N=8)	%
Had pre-entry need for:								
planning studies	31	66.4	21	47.7	10	52.6	6	75.0
obtaining finances	14	29.8	11	25.0	7	36.8	1	12.5
planning a career	10	21.3	12	27.3	5	26.3	2	25.0
choosing a college	14	29.8	13	29.5	5	26.3	2	25.0
assessing aptitudes	8	17.0	11	25.0	1	5.3	1	12.5
updating learning skills	2	4.3	7	15.9	1	5.3	0	.0
Used no University service for:								
planning studies	4	12.9*	4	19.0	0	.0	3	50.0
obtaining finances	1	7.1	4	36.4	1	14.3	0	.0
planning a career	5	50.0	5	41.7	1	20.0	2	100.0
choosing a college	2	14.3	5	38.5	0	.0	0	.0
assessing aptitudes	7	87.5	4	36.4	0	.0	1	100.0
updating learning skills	2	100.0	4	57.0	0	.0	0	.0
Had post-entry need for:								
planning studies	30	63.8	28	63.6	9	47.4	4	50.0
obtaining finances	17	36.2	14	31.8	7	36.8	1	12.5
finding on-campus service	17	36.2	19	43.2	3	15.8	0	.0
planning a career	14	29.8	15	34.1	2	10.5	1	12.5
solving problems	10	21.3	6	13.6	3	15.8	0	.0
updating learning skills	3	6.4	9	20.5	4	21.1	0	.0
Used no University service for:								
planning studies	0	.0*	0	.0	0	.0	0	.0
obtaining finances	2	11.8	1	7.1	1	14.3	0	.0
finding on-campus service	3	17.6	3	15.8	0	.0	0	.0
planning a career	0	.0	4	26.7	0	.0	0	.0
solving problems	4	40.0	2	33.3	1	33.3	0	.0
updating learning skills	1	33.3	4	44.4	1	25.0	0	.0

*% based on number expressing the need.

Summary

Chapter IV was a report of the data gathered on the mid-life undergraduate at Michigan State University. First, the sample's demographic characteristics, educational motivations, pre-entry and post-entry needs, and satisfaction with University services used were described. Second, the sample data analysed by the variables of sex, age, and college were presented. Finally, the formation of educational motivation groups by factor analysis was discussed, and these groups' demographic characteristics, pre-entry and post-entry needs, and satisfaction with University services used were described.

In Chapter IV, major findings from the data will be reviewed, with conclusions drawn and implications stated. Then recommendations for further research will be discussed.

CHAPTER V

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

This study of Michigan State undergraduates ages 30 through 49 was conducted: 1) to identify and describe demographic characteristics, educational motivations, expressed pre-entry and post-entry academic and non-academic needs, and satisfaction in meeting those needs by using University services; 2) to determine the extent to which the variables of sex, age, and college impacted on this group; 3) to determine the subdivision of this group by their educational motivations, and 4) to draw implications from the data for development or revision of University services.

Data were gathered on 207 students using The Adult Student Survey Questionnaire. Several procedures analysed the data. Demographic and need variables were reported by percentage distribution for the sample. Aggregate mean scores were calculated for educational motivation and satisfaction with services variables. Chi-square procedures determined whether the independent variables of sex, age, and college were related significantly .10 to the demographic and need variables. An F-test analysis of variance

procedure determined whether mean differences among educational motivation and satisfaction with University services variables were related significantly .10 to the independent variables of sex, age, and college. Finally, factor analysis arranged educational motivation factors into unidimensional orientations, and these were further analysed to form several educational motivation groups.

The data yielded extensive information. Although the sample was not representative by sex and age, conclusions--while statistically limited to this group--can be drawn practically about mid-life undergraduates enrolled at the University within a recent period.

Major Findings

Demographic Summary

The first research question was: What are the major demographic characteristics of the mid-life sample?

The 137 females and 70 males in the sample lived off-campus within a 20 mile radius of the University. Academically, they principally attended part-time, either as juniors or seniors, and were enrolled most frequently in the College of Social Science and the College of Arts and Letters. Most were pursuing their first bachelor's degree. A large majority had attended college previously, usually at a community college. A majority had started

college in their teens, but a quarter also had started the first time in their thirties and forties.

Socio-economically, two-thirds were married, but one-fifth also were divorced or separated. Nearly half had financially dependent children, with most in elementary or junior and senior high school. Slightly less than a majority worked at a regular job, and a small proportion worked in a temporary job or as volunteers. Occupations ranged widely, with nearly a third employed in professional-technical and manager-administrative positions.

Financially, a large majority spent less than $2,000 annually for college, and did not forego pay. Most used their own or their spouse's earnings and savings to finance college, although about a third did receive financial assistance arranged through the University.

Educational Motivation Summary

The second research question was: What are the major educational motivations of the mid-life sample?

Thirteen educational motivation orientations were developed. The sample expressed three strong orientations--career, knowledge, and life--as well as a mix of others. Highly rated orientations were Career Change, Knowledge Interest, Upward Mobility, and Life Exploration. Especially low ratings were given to Social Interest and Escape Interest.

Needs and University Services Summary

The third research question was: What selected pre-entry and post-entry needs did the sample express? And to what extent were these needs satisfied by using University services?

A quarter of the sample at pre-entry, and 15.9% at post-entry, expressed no needs. At both pre-entry and post-entry, a majority expressed the need for planning their studies; a third expressed the need for obtaining financial support; a quarter expressed the need for planning a career; and few expressed the need for updating learning skills. At pre-entry, about one-fifth expressed the need for choosing a college or assessing aptitudes. At post-entry, about a third expressed the need for finding University services, and a fifth the need for solving problems.

More than 40% of those expressing the need for planning a career, updating learning skills, and assessing aptitudes at pre-entry, and more than 35% of those express- the need for solving problems and updating learning skills at post-entry, chose not to seek service from the University.

The University services used most frequently by mid-life undergraduates were academic advisors, other faculty and staff, the Office of Financial Aids, the Office of Admissions and Scholarships, the Office of the Assistant Dean for Lifelong Education, and the Counseling Center.

At pre-entry, most frequently contacted to satisfy the need for obtaining financial support were the Office of Financial Aids and the Office of Admissions and Scholarships; and for all other needs, it was faculty and staff. At post-entry, most frequently contacted to satisfy the need for obtaining financial support was the Office of Financial Aids; for updating learning skills was the Learning Resources Center; and for all others were academic advisors and other faculty and staff.

Generally, satisfaction with University services used frequently (15 or more times) was high (3.0 or better), except for the Office of Financial Aids and the Office of Admissions and Scholarships at pre-entry, and the Counseling Center at post-entry.

Differences in the Sample
Summary

The fourth research question was: What significant relationships or differences .10 occurred when the sample data were examined by the independent variables of sex, age, and college?

Sex. Males and females differed in several important aspects. Academically, females were more likely enrolled in the College of Arts and Letters, the College of Education, and the College of Human Ecology; and males in the College of Engineering and the College of Agriculture and Natural Resources. Males especially were more

frequently pursuing a second bachelor's degree.

Socio-economically, females more frequently were divorced or separated, and worked as homemakers or as volunteers. Males more frequently were never married, had financial dependents (especially pre-school and elementary children and spouses), worked at regular jobs, and were employed as managers, administrators, and tradesmen.

Financially, females more likely financed college using their spouse's earnings or savings, spent less to attend college, and received financial assistance from the University. Males more likely financed college using their own savings and earnings, GI benefits, or employer plans.

Motivationally, females tended more to pursue the baccalaureate degree in order to enter or re-enter a career, to change to a new career, to satisfy knowledge interest, or to fulfill an escape interest. Males were more likely interested in improving their current careers.

Expressed needs prior to and after entry were generally similar. However, at pre-entry, females more frequently expressed the need for planning their studies and planning their careers. At post-entry, males more frequently expressed the need for updating learning skills, but the numbers were few.

University services use was similar except for the disproportionately high use of the Office of the Assistant Dean for Lifelong Education by females.

Although satisfaction could not be tested reliably, ratings overall were generally similar. Females, however, appeared somewhat less satisfied with the Office of Financial Aids, the Adult Counseling Service (pre-entry), and the Counseling Center (post-entry).

Age. Age seldom related significantly. Those in their early thirties, however, registered for more credits. More of them also had never married; but among those married, more financially dependent pre-school children and spouses were claimed. Those in their late forties were least likely to claim dependent children. More in their thirties than forties were divorced or separated. Motivationally, upward mobility became less important as students became older.

College. College seldom related significantly. Those in Professional/Technical colleges, however, appeared to stand apart from the other college groups. More of them were seniors, had earned a bachelor's degree previously, were enrolled full-time, held professional-technical jobs, and had foregone pay to attend college. Motivationally, their main interest was improving their current careers. Few of them expressed any pre-entry or post-entry needs. At post-entry, they had the least expressed need for planning their studies.

Others. About 10% of the sample had already earned a bachelor's degree previously. Some selected analysis

showed that this subgroup differed from the main sample. They were principally males in their early thirties. Most enrolled in Professional/Technical colleges, had attended four year public colleges previously, and had started college first in their teens. Socio-economically, they were pursuing professional-technical careers. Also many had never married. Financially, they more frequently financed their education by using G. I. benefits, educational loans arranged through the University, or family inheritances or gifts. Motivationally, they were almost exclusively interested in improving their current careers.

Educational Motivation Groups Summary

The final research question was: To what extent did the sample subdivide according to their educational motivation orientations? Moreover, what are the major demographic characteristics, needs, and satisfaction ratings of University services used?

Four educational motivation groups were supported statistically: External Career Oriented, with strong career interests especially related to external requirements of potential employers or professional associations; Exploration Oriented, with strong concerns for exploring academic and life goals; Career Improvement Oriented, with strong career interests especially related to improving current skills and knowledge needed on their

present jobs; and Renewal Oriented, with strong concerns for improving outdated knowledge and skills as well as for preparing to enter or re-enter the labor market.

These groups differed somewhat demographically. Even so, there appeared to be more similarities than differences. The Renewal Oriented appeared most distinct, however, since they exclusively were female, married, and without dependent younger children.

Conclusions

Extensive data were gathered on this sample of Michigan State undergraduates. That on demographic characteristics raised questions about the type of adult attracted at mid-life to the University's undergraduate programs. That on educational motivations identified several important orientations as well as a couple that were less important than for adult learners in other institutions. That on needs and satisfaction with University services indicated the quantity and quality of this one non-traditional groups's involvement with University services when they had expressed needs for assistance.

In line with the fourth purpose of this study, these major conclusions, with implications for the University, are offered:

1) <u>At mid-life female and male Michigan State undergraduates differ in several important respects</u>. In

fact, sex appeared the most discriminating of the three independent variables examined. Females appeared less experienced academically, especially since fewer of them had already earned a baccalaureate degree. Also they were not seeking opportunities in certain colleges, most notably the College of Engineering and other Professional/Technical ones. Females also were more frequently divorced or separated, and thus were "single parents" with responsibility for dependent children. Motivationally, they were concerned about changing careers or entering and re-entering the job market, while their male counterparts already had established jobs and were looking principally to improve within them. Females clearly had the greater expressed need for academic and career planning prior to entry. But they appeared less assertive in seeking help with these concerns from the University. Moreover, when they received assistance from University services, they were slightly less satisfied.

Educationally, this implies that a University which attracts mid-life adults must determine whether it is justified in providing special support to one group based on sex differences. It appears that special efforts at this University on behalf of mid-life females is justified, especially before they have entered the University and are trying to determine the worth of a baccalaureate program in satisfying their academic and vocational

aspirations. After entry, it would appear that they need greater career assistance, because of the variety of their career concerns as well as the inherent difficulty in changing or finding jobs later in life.

2) The Office of the Assistant Dean for Lifelong Education is highly, but almost exclusively, supportive of mid-life females. This Lifelong Education Programs unit, supposedly in service to any adult regardless of gender, received high marks for its efforts. Even so, females had almost exclusive contact with it.

Educationally, this implies that a University service, in spite of expressed intent, may become associated with serving one type of client exclusively. This may occur for a variety of reasons, such as inadequately defined missions or functions, or the taking on of the character of the administrative personality supervising it. For Lifelong Education Programs, the issue is: Is the documented practice of nearly exclusive service to females contrary to its stated mission? Moreover, the disproportionate use by women, when both males and females expressed a number of similar needs, suggests the need for an investigation of a counterpart service for men.

3) A minority of Michigan State mid-life undergraduates expressed needs at both pre-entry and post-entry. Except for academic planning, a majority of the sample expressed none of the selected needs surveyed. Therefore,

the need for planning a career, obtaining financial support, updating learning skills, assessing aptitudes, choosing a college, or finding University services were minority concerns.

Educationally, this implies that needs thought generally to be important to adult students may not be strongly supported from field research at specific institutions. It reinforces the importance of institutional assessment of not only the range, but also the strength, of specific adult ascribed needs. On the other hand, even though the selected needs surveyed might be minority concerns, the University should not assume that these are unimportant to those who express having them.

4) A significant proportion of the minority expressing pre-entry and post-entry needs chose not to satisfy these by using University services. At pre-entry from 40% to 55% chose not to use University services for satisfying the need for planning a career, assessing aptitudes, and updating learning skills. At post-entry from 37% to 39% chose not to for updating learning skills and solving problems.

Educationally, this implies that although mid-life undergraduates perceived certain needs as important, they did not perceive the University as the place to find assistance. This raises important questions: Are certain needs better satisfied by using off-campus services?

What responsibility does the University have for providing help to prospective adult students in such areas as academic and career planning, financial aid, aptitude assessment, learning skill enhancement, and college selection? What University services are available to prospective adult students with identifiable needs? How accessible and visible are these services? What personal or institutional constraints contribute to non-use of University services by non-traditional students having identifiable needs?

5) Satisfaction with University services used was high except in the areas of financial aids, admissions, and counseling. On a scale of 5, most services were rated 3 or above, except in three cases. The study does not explain why ratings were consistently lower for the Office of Financial Aids, the Office of Admissions and Scholarships, and the Counseling Center. One can speculate that Financial Aids must contend with external constraints not favorable to adults, such as eligibility requirements for grants and loans. Similarly, the Counseling Center may be affected by the policy that part-time students are not eligible for its service. But for Admissions there are no apparent extenuating circumstances.

Educationally, this implies that the University

might benefit from an assessment of these three services to answer the questions: How well are students in general satisfied with their service? Are there differences in satisfaction related to being traditional or non-traditional students? The University might also benefit from a review of the "7 credit" rule to determine whether it is equitably applied when older students disproportionately enroll part-time.

6) Faculty and other staff assist mid-life undergraduates with a wide variety of non-academic affairs, sometimes more so than personnel in other University service units. At pre-entry this was true for choosing a college, planning a career, and assessing aptitudes. At post-entry this was true for finding University services, planning a career, and solving problems.

Educationally, this implies that faculty play a large, if unrecognized, role in the non-academic affairs of older students. It raises these questions: Is their non-academic involvement different from that provided traditional students? Do faculty actively seek to fulfill this function? As a rule, how well prepared are they to fulfill a non-academic function? In what ways should and can the University help those faculty who fulfill this role to handle it more competently?

7) It is confounding to analyse adult students' educational motivations according to common demographic variables such as sex and age. In most previous research (except Morstain and Smart 1977), investigators have relied upon describing educational motivations according to common demographic variables. Certainly such variables as sex and age are helpful in showing how adult groups may differ. However, the a priori association of these variables with educational motivations may be confounding. This study showed that motivational patterns were complex and not simply related to common demographic designations. In three out of four groups identified, subjects displayed a mix by age, by sex, and by all the other variables examined.

Educationally, this implies that a priori adult groupings may be research artifacts. This approach may subtly confirm the researcher's stereotype of adult learners, as well as emphasize "commonalities" that rarely exist. It points to the need for educators to perceive adults as individuals who, while they may display similarities, are usually unique. In essence, for the convenience of research, investigators may be obviating their subjects' individuality.

Recommendations for Further Research

This study suggested several worthy areas of further research. Foremost, other adult groups both on-campus and off-campus should be studied for comparison with this group. It seems important that, before commencing this research, agreement should be reached on what kinds of data are appropriate to gather. Someone would contribute immensely to the usefulness of future research on adult students at the University by assessing criteria for selecting what the University needs to know about its adult students in order to fulfill its obligations to them.

These major recommendations for further research on adult students at the University are offered:.

1) Further research should determine those instances when adult undergraduates are homogeneous or heterogeneous, as well as determine why any differences among adult groups are important for the University to recognize. This study a priori identified a mid-life group, but did not attempt to determine whether they were different from other adult groups. There was some indication of heterogeneity within this group by sex, by age, and by college. What may be needed, however, is a broader study that attempts to establish statistically age related sub-groupings without a priori designation of groups by age.

2) Further research should examine the educational motivations of all adult undergraduates using factor analysis. Broadening as well as increasing the sample would allow for greater definitive typing of these adults by their educational motivations. It would also allow for clearer understanding of which motivations cut across demographic descriptors such as sex and age, as well as those specially influenced by them. The recently installed computer at the University would now have the capacity to handle this more extensive data analysis.

3) This study examined adults who, after the fact, expressed having had certain needs before entering the University. Not examined were those prospective students who never entered the University. It would be important to know the extent of those seeking but not gaining admission to determine: 1) What University services did they come in contact with? 2) How many prospective adult students never get admitted? 3) What are the common points of initial contact with the University? 4) What reasons do these persons have for not completing their admission? 5) In what way do personal, external, and internal constraints affect their decision not to enroll? and 6) What should and what does the University do to ease their transition from prospective to admitted student?

4) This research provided information on the extent to which one adult group used University student services. The findings strongly suggest the need for further research that 1) assesses the totality of University services used by all non-traditional groups, as well as 2) evaluates the practices and policies of specific services such as the Office of Admissions and Scholarships, the Office of Financial Aid, the Counseling Center, and the Office of the Assistant Dean for Lifelong Education. This assessment should be conducted to answer such questions as 1) Do adults want or need special University services? and 2) Do current service units respond similarly to both traditional and non-traditional students?

Epilogue

This study draws attention to only some of the many adult students attracted to Michigan State University. Nevertheless, the conclusions from the study have implications relevant to the University's lifelong education commitment to diverse clienteles. There are subtle indications that these students--and by implication, other non-traditional students--could be accommodated better in some areas of the University. When these and other older students are to be integrated fully within the University is the contemporary challenge.

APPENDICES

APPENDIX A

SAMPLE COVER LETTERS AND ADULT STUDENT SURVEY QUESTIONNAIRE

APPENDIX A

SAMPLE COVER LETTERS AND ADULT STUDENT SURVEY QUESTIONNAIRE

February 5, 1979

Dear Student:

We are surveying mature adult undergraduate students at Michigan State University to assess their characteristics, educational goals, and satisfaction with selected University services used. The data gathered will be incorporated into a dissertation and a summary of significant findings will be communicated to the University.

As one of the adult undergraduates selected at random to represent the total group on campus, your opinions are very much needed.

Enclosed is a questionnaire which should take less than 25 minutes to complete. Please answer all questions completely, then return it in the enclosed envelope. Should you like to receive a summary of the findings, please notify me.

To remain anonymous, please do not sign the questionnaire. Your individual responses will be handled in strictest confidence and the results will be reported in the aggregate only.

The aim is to complete this survey by March 1, 1979. Your cooperation in filling out the questionnaire now will help a great deal.

Thank you for your assistance.

Sincerely,

Paul E. Huntsberger
Ph. D. Candidate,
Administration and Higher
Education

March 6, 1979

Dear Student:

Recently you received a questionnaire surveying mature undergraduates at Michigan State University. If you have returned yours, thank you very much.

If you have been unable to do it yet, won't you please complete and return your questionnaire so that your responses can be included in this important study?

I have enclosed another questionnaire in case the original one has been misplaced.

With best regards,

Paul E. Huntsberger
Ph. D. Candidate
Administration and Higher
Education

SURVEY OF ADULT UNDERGRADUATES

I. BACKGROUND: *Directions--Please answer items 1-18 by placing check ✓marks in appropriate boxes and writing the appropriate number or word on each blank line.*

1. What is your present class level?
   ( )freshman (0-39 credits) ( )junior (85-129 credits)
   ( )sophomore (40-84 credits) ( )senior (130+ credits)

2. Have you previously earned a baccalaureate degree?
   ( )yes ( )no

3. How many credits are you carrying Winter Term 1979?_____

4. While attending MSU, where do you live?
   ( )on-campus ( )off-campus

5. If living off-campus, how many miles (one way) do you commute daily?_____

6. What college are you enrolled in? _____

7. What colleges did you attend before coming to MSU? (You may check more than one)
   ( )none ( )4 year private college
   ( )junior/community college ( )4 year public college
   ( )other--please specify:_____

8. What was your age when you first enrolled in any college?_____

9. What is your present age?_____

10. After first enrolling in any college, what was the longest continuous period you stopped attending college?_____/_____
    years/months

11. What is your sex? ( )female ( )male

12. What is your present marital status?
    ( )never married ( )divorced
    ( )married, living with spouse ( )widowed
    ( )separated

(Continue next column)

13. What is your present occupation?_____

14. While attending college, how many hours per week do you:
    ____(hrs.)work as a homemaker ____(hrs.)work at your regular job?
    ____(hrs.)work at a temporary job?____(hrs.)work as a volunteer?

15. How many persons are financially dependent on you? (Write appropriate number in each blank)
    ____pre-school child(ren) ____elementary school child(ren)
    ____junior or senior high school child(ren) ____child(ren) no longer in school
    ____child(ren) in college ____spouse
    ____parent(s)--yours or spouse's ____other(s)--Please specify:_____

16. What do you spend annually (for fees, books, transportation, meals and lodging away from home, and other college-related costs) to attend MSU?
    ( )up to $2000 ( )$4001-6000
    ( )$2001-4000 ( )over $6000

17. How much pay that you would otherwise earn is not being received this year because you are attending MSU? $_____

18. Which of the following sources have you used to finance your college education? (Check as many as apply)
    ( )own earnings or savings
    ( )spouse's earnings or savings
    ( )inheritance, loans or gifts from other individuals
    ( )GI or other veteran benefits
    ( )scholarships, fellowships, or other grants such as BEOG arranged through MSU
    ( )educational loans arranged through MSU
    ( )loans from banks or other lending agencies
    ( )employers' plans such as tuition rebates
    ( )paid released time for education from employer
    ( )other--Please specify:_____

II. **REASONS FOR ATTENDING SCHOOL:** Some adults have only one or two strong reasons for deciding to continue their education. Others have many reasons. Listed below are a number of factors that might have influenced your decision to pursue a degree at MSU.

DIRECTIONS--After each item, please circle the number which best describes how much influence that factor had on your decision to come to MSU. If you had other reasons for coming to MSU, please add them in the space provided at the end of the list. Please use the rating scale: 5=VERY STRONG INFLUENCE 4=STRONG INFLUENCE 3=MODERATE INFLUENCE 2=WEAK INFLUENCE 1=VERY WEAK INFLUENCE 0=NO

Please Circle a Number for every Item	
1. To meet congenial people.	5-4-3-2-1-0
2. To prepare for a career in a new field.	5-4-3-2-1-0
3. To belong to a group.	5-4-3-2-1-0
4. To prepare to enter the labor market for the first time	5-4-3-2-1-0
5. To examine future life goals.	5-4-3-2-1-0
6. To be able to better serve humanity	5-4-3-2-1-0
7. To acquire skills or knowledge required by changes in my current job.	5-4-3-2-1-0
8. To reflect on my life's directions.	5-4-3-2-1-0
9. To better understand community problems	5-4-3-2-1-0
10. To refresh information and skills I have not used for a while.	5-4-3-2-1-0
11. To consider different life values	5-4-3-2-1-0
12. To become a better citizen.	5-4-3-2-1-0
13. To prepare for a specialized role in my field of work	5-4-3-2-1-0
14. To prepare to cope with changing life goals.	5-4-3-2-1-0
15. To make new friends	5-4-3-2-1-0
16. To prepare to change from one job to another in my present field	5-4-3-2-1-0
17. To gain fresh perspective on problems I deal with	5-4-3-2-1-0
18. To learn for the enjoyment of learning.	5-4-3-2-1-0
19. To keep my license or certificate valid	5-4-3-2-1-0

Please Circle a Number for every Item	
20. To find ways to cope with personal problems.	5-4-3-2-1-0
21. To keep up with changing knowledge in my field of work	5-4-3-2-1-0
22. To improve my financial future	5-4-3-2-1-0
23. To have time away from my family	5-4-3-2-1-0
24. To update knowledge in fields studied earlier.	5-4-3-2-1-0
25. To meet the requirements of my present employer.	5-4-3-2-1-0
26. To examine future academic goals	5-4-3-2-1-0
27. To improve personal relationships with other people.	5-4-3-2-1-0
28. To gain greater status and prestige.	5-4-3-2-1-0
29. To learn about alternative academic opportunities.	5-4-3-2-1-0
30. To satisfy personal intellectual curiosity	5-4-3-2-1-0
31. To change the routine of daily life.	5-4-3-2-1-0
32. To meet standards set by professional or trade associations	5-4-3-2-1-0
33. To get away from personal problems	5-4-3-2-1-0
34. To prepare to re-enter the labor market after a long absence.	5-4-3-2-1-0
35. To meet requirements of potential employers.	5-4-3-2-1-0
36. Other--Please specify:_____	5-4-3-2-1-0
_____	5-4-3-2-1-0

Please go to Section III, page 3.

III. SERVICES RECEIVED BEFORE YOU ENTERED MSU: Adults often need assistance from MSU when they are considering whether to enter or re-enter college. They may also need assistance after they have decided, but before they actually enter the University. Most needs for such pre-entry assistance fall into the six categories listed under Column A below.

DIRECTIONS--Please recall the time before you entered MSU and answer questions 1-6 under COLUMN A, completing COLUMNS B,C,D only as directed. Then answer questions 7-8 at the end of the section.

A. ASSISTANCE NEEDED BEFORE ENTERING MSU Place a check (✓).	B. SOURCES OF ASSISTANCE AT MSU Check (✓) where at MSU you sought this assistance. (You may check more than one)	C. ASSISTANCE RECEIVED Circle how many times you received it there.	D. LEVEL OF SATISFACTION Circle how satisfied you were. *not at all---extremely well* 0 ——— 5
1. Before entering, did you need assistance in CHOOSING AND PLANNING A PROGRAM OF STUDY? ( )No--proceed to item 2 below ( )Yes--answer next question DID YOU ASK FOR IT AT MSU? ( )No--proceed to item 2 below ( )Yes--Please go to COLUMNS B,C,D →	( )A faculty or staff member in a college or department.	0 1 2 3 4 more	0 1 2 3 4 5
	( )Office of the Assistant Dean for Life-long Education (or Mildred Erickson) .	0 1 2 3 4 more	0 1 2 3 4 5
	( )Adult Counseling and Testing Service .	0 1 2 3 4 more	0 1 2 3 4 5
	( )Admissions and Scholarships Office . .	0 1 2 3 4 more	0 1 2 3 4 5
	( )Off-campus Extension or Continuing Education Offices.	0 1 2 3 4 more	0 1 2 3 4 5
	( )Other at MSU--Please specify:_____	0 1 2 3 4 more	0 1 2 3 4 5
2. Before entering, did you need assistance in CHOOSING AND MAKING CAREER PLANS? ( )No--proceed to item 3 below ( )Yes--answer next question DID YOU ASK FOR IT AT MSU? ( )No--proceed to item 3 below ( )Yes--Please go to COLUMNS B,C,D →	( )A faculty or staff member in a college or department.	0 1 2 3 4 more	0 1 2 3 4 5
	( )Office of the Assistant Dean for Life-long Education (or Mildred Erickson) .	0 1 2 3 4 more	0 1 2 3 4 5
	( )Adult Counseling and Testing Service .	0 1 2 3 4 more	0 1 2 3 4 5
	( )Career Resources Center.	0 1 2 3 4 more	0 1 2 3 4 5
	( )Off-campus Extension or Continuing Education Offices.	0 1 2 3 4 more	0 1 2 3 4 5
	( )Other at MSU--Please specify:_____	0 1 2 3 4 more	0 1 2 3 4 5
3. Before entering, did you need assistance in ASSESSING YOUR INTERESTS AND APTITUDES? ( )No--proceed to item 4 next page ( )Yes--answer next question DID YOU ASK FOR IT AT MSU? ( )No--proceed to item 4 next page ( )Yes--Please go to COLUMNS B,C,D →	( )A faculty or staff member in a college or department.	0 1 2 3 4 more	0 1 2 3 4 5
	( )Office of the Assistant Dean for Life-long Education (or Mildred Erickson) .	0 1 2 3 4 more	0 1 2 3 4 5
	( )Adult Counseling and Testing Service .	0 1 2 3 4 more	0 1 2 3 4 5
	( )Other at MSU--Please specify:_____	0 1 2 3 4 more	0 1 2 3 4 5

A. ASSISTANCE NEEDED BEFORE ENTERING MSU Place a check (✓)	B. SOURCES OF ASSISTANCE AT MSU Check (✓) where at MSU you sought this assistance. (You may check more than one)	C. ASSISTANCE RECEIVED Circle how many times you received it there.	D. LEVEL OF SATISFACTION Circle how satisfied you were. *not at all---extremely well* 0 ——→ 5
4. Before entering, did you need assistance in OBTAINING FINANCIAL SUPPORT? ( )No--proceed to item 5 below ( )Yes--answer next question DID YOU ASK FOR IT AT MSU? ( )No--proceed to item 5 below ( )Yes--Please go to COLUMNS B,C,D →	( )A faculty or staff member in a college or department.	0 1 2 3 4 more	0 1 2 3 4 5
	( )Office of the Assistant Dean for Life-long Education (or Mildred Erickson) .	0 1 2 3 4 more	0 1 2 3 4 5
	( )Admissions and Scholarships Office . .	0 1 2 3 4 more	0 1 2 3 4 5
	( )Financial Aids Office.	0 1 2 3 4 more	0 1 2 3 4 5
	( )Off-campus Extension or Continuing Education Offices.	0 1 2 3 4 more	0 1 2 3 4 5
	( )Other at MSU--Please specify:_____	0 1 2 3 4 more	0 1 2 3 4 5
5. Before entering, did you need assistance in UPDATING READING OR OTHER LEARNING SKILLS? ( )No--proceed to item 6 below ( )Yes--answer next question DID YOU ASK FOR IT AT MSU? ( )No--proceed to item 6 below ( )Yes--Please go to COLUMNS B,C,D →	( )A faculty or staff member in a college or department.	0 1 2 3 4 more	0 1 2 3 4 5
	( )Office of the Assistant Dean for Life-long Education (or Mildred Erickson) .	0 1 2 3 4 more	0 1 2 3 4 5
	( )Evening College/Learning Resources Center Adult Learning Skills Course. .	0 1 2 3 4 more	0 1 2 3 4 5
	( )Other at MSU--Please specify:_____	0 1 2 3 4 more	0 1 2 3 4 5
6. Before entering, did you need assistance in DECIDING WHICH COLLEGE YOU SHOULD ATTEND? ( )No--proceed to item 7 below ( )Yes--answer next question DID YOU ASK FOR IT AT MSU? ( )No--proceed to item 7 below ( )Yes--Please go to COLUMNS B,C,D →	( )A faculty or staff member in a college or department.	0 1 2 3 4 more	0 1 2 3 4 5
	( )Office of the Assistant Dean for Life-long Education (or Mildred Erickson) .	0 1 2 3 4 more	0 1 2 3 4 5
	( )Off-campus Extension or Continuing Education Offices.	0 1 2 3 4 more	0 1 2 3 4 5
	( )Other at MSU--Please specify:_____	0 1 2 3 4 more	0 1 2 3 4 5

7. Check which of the "pre-entry" kinds of assistance you received OUTSIDE MSU? ( )choosing and planning a program of study, ( )choosing and making career plans, ( )assessing your interests and aptitudes, ( )obtaining financial support, ( )updating reading and other learning skills, ( )deciding which college you should attend.

8. Before enrolling, what other kinds of assistance did you: A. NEED AND RECEIVE FROM MSU?_____

B. NEED BUT NOT RECEIVE FROM MSU?_____ C. NEED BUT RECEIVE OUTSIDE MSU?_____

IV. SERVICES RECEIVED SINCE ENTERING MSU: Adults often need assistance from MSU once they have entered or re-entered college. Most needs for such post-entry assistance fall into the six catefories listed under COLUMN A below.

DIRECTIONS--Please recall the time since you entered MSU and answer questions 1-6 under COLUMN A, completing COLUMNS B,C,D only as directed. Then answer questions 7-8 at the end of the section.

A. ASSISTANCE NEEDED BEFORE ENTERING MSU Place a check (✓)	B. SOURCES OF ASSISTANCE AT MSU Check (✓) where at MSU you sought this assistance. (You may check more than one)	C. ASSISTANCE RECEIVED Circle how many times you received it there.	D. LEVEL OF SATISFACTION Circle how satisfied you were. *not at all---extremely well* *0 ——→ 5*
1. Since entering, have you needed assistance in CHOOSING AND PLANNING A PROGRAM OF STUDY? ( )No--proceed to item 2 below ( )Yes--answer next question DID YOU ASK FOR IT AT MSU? ( )No--proceed to item 2 below ( )Yes--Please go to COLUMNS B,C,D →	( )Your academic advisor . . . . . . ( )Other faculty or staff members in a college or department . . . . . . ( )Office of the Assistant Dean for Life-long Education (or Mildred Erickson). . ( )MSU Counseling Center . . . . . . ( )Other at MSU--Please specify:_____	0 1 2 3 4 more 0 1 2 3 4 more 0 1 2 3 4 more 0 1 2 3 4 more 0 1 2 3 4 more	0 1 2 3 4 5 0 1 2 3 4 5 0 1 2 3 4 5 0 1 2 3 4 5 0 1 2 3 4 5
2. Since entering, have you needed assistance in EXPLORING CAREER OPTIONS OR MAKING CAREER PLANS? ( )No--proceed to item 3 below ( )Yes--answer next question DID YOU ASK FOR IT AT MSU? ( )No--proceed to item 3 below ( )Yes--Please go to COLUMNS B,C,D →	( )Your academic advisor . . . . . . ( )Other faculty or staff members in a college or department . . . . . . ( )Office of the Assistant Dean for Life-long Education (or Mildred Erickson). . ( )MSU Counseling Center . . . . . . ( )Career Resources Center . . . . . . ( )Placement Services. . . . . . ( )Other at MSU--Please specify:_____	0 1 2 3 4 more 0 1 2 3 4 more 0 1 2 3 4 more 0 1 2 3 4 more 0 1 2 3 4 more 0 1 2 3 4 more 0 1 2 3 4 more	0 1 2 3 4 5 0 1 2 3 4 5 0 1 2 3 4 5 0 1 2 3 4 5 0 1 2 3 4 5 0 1 2 3 4 5 0 1 2 3 4 5
3. Since entering, have you needed assistance in WORKING OUT PERSONAL OR SOCIAL PROBLEMS? ( )No--proceed to item 4 next page ( )Yes--answer next question DID YOU ASK FOR IT AT MSU? ( )No--proceed to item 4 next page ( )Yes--Please go to COLUMNS B,C,D →	( )your academic advisor . . . . . . ( )Other faculty or staff members in a college or department . . . . . . ( )Office of the Assistant Dean for Life-long Education (or Mildred Erickson). . ( )MSU Counseling Center . . . . . . ( )Other at MSU--Please specify:_____	0 1 2 3 4 more 0 1 2 3 4 more 0 1 2 3 4 more 0 1 2 3 4 more 0 1 2 3 4 more	0 1 2 3 4 5 0 1 2 3 4 5 0 1 2 3 4 5 0 1 2 3 4 5 0 1 2 3 4 5

APPENDIX B

SUMMARY OF DATA NOT SIGNIFICANT WHEN ANALYSED BY THE VARIABLES OF SEX, AGE, AND COLLEGE

APPENDIX B

SUMMARY OF DATA NOT SIGNIFICANT WHEN ANALYSED BY THE VARIABLES OF SEX, AGE, AND COLLEGE

TABLE A.1--Distribution of non-significant data by the variables of sex, age, and college

Variables	Female	Male	Age 30-34	Age 35-39	Age 40-44	Age 45-49	Liberal Arts	Social Science	Professional/ Human Service	Professional/ Technical
Previous Degree:										
Yes			10	6	6	2				
Previous College:										
None	28	12	13	12	8	7	9	9	11	9
Community college . .	87	46	43	45	24	21				
Four year public . .	41	17	25	16	12	5				
Four year private . .	13	5	3	7	3	5				
Stopped Out:										
Less than 5 years . .	72	42	42	34	19	19	29	30	30	23
More than 5 years . .	65	28	25	30	25	13	25	20	28	18

TABLE A.1 (cont'd)

Variables	Female	Male	Age 30-34	Age 35-39	Age 40-44	Age 45-49	Liberal Arts	Social Science	Professional/ Human Service	Professional/ Technical
Residency:										
On-campus	17	8	12	7	4	2	5	7	7	6
Off-campus	120	62	55	57	40	30	49	43	51	35
Distance Travelled:										
Less than 20 miles	86	51	45	42	29	21	37	30	41	27
More than 20 miles	31	11	10	13	11	8	10	12	10	8
Marital Status:										
Never married							4	4	5	6
Married							38	34	38	27
Divorced/separated							12	12	15	8
Class Level:										
Freshman/sophomore	15	7	4	9	5	4				
Junior/senior	122	61	62	55	39	27				
Credit Load:										
Part-time	83	42								
Full-time	52	27								

TABLE A.1 (cont'd)

Variables	Female	Male	Age 30-34	Age 35-39	Age 40-44	Age 45-49	Liberal Arts	Social Science	Professional/ Human Service	Professional/ Technical
Financial Dependents:										
None							29	20	32	15
Pre-school children							8	8	5	9
Elementary children							15	12	11	14
Junior or senior high school children							8	16	19	11
Children in college							6	3	7	2
Children out of school							0	0	2	2
Spouse							14	16	5	16
Occupations:										
Professional-Technical			13	21	6	6				
Manager-Administrative			7	9	5	5				
Clerical-Sales			11	6	5	3				
Services			12	15	14	10				
Agriculture			1	1	1	2				
Tradesman			5	3	3	1				
Work:										
Homemaker			28	32	29	19	28	26	37	14

TABLE A.1 (cont'd)

Variables	Female	Male	Age 30-34	Age 35-39	Age 40-44	Age 45-49	Liberal Arts	Social Science	Professional/ Human Service	Professional/ Technical
Temporary			8	13	4	5	8	6	8	7
Regular			31	35	21	14	29	28	21	20
Volunteer			14	7	9	8	13	12	9	2
Annual Cost:										
Less than $2,000 . .							38	36	35	22
More than $2,000 . .							10	13	23	18
Pay Foregone:										
None	43	29								
Less than $5,000 . .	14	8								
More than $5,000 . .	33	19								
Financial Sources:										
Own income/savings .			51	50	33	21	39	38	43	32
Spouse income/ savings			28	25	25	18	25	20	33	16
MSU scholarship . . .			19	18	13	11	13	17	18	12
GI benefit			16	12	8	3	7	10	7	15
MSU loan			15	8	6	4	5	8	12	7
Non-MSU loan			4	4	5	1	5	0	4	4
Employer plan			11	11	4	4	8	9	8	5
Released time			4	7	1	1	2	4	3	4
Inheritance or gift .			12	8	0	0	5	5	12	4

TABLE A.1 (cont'd)

Variables	Female	Male	Age 30-34	Age 35-39	Age 40-44	Age 45-49	Liberal Arts	Social Science	Professional/ Human Service	Professional/ Technical
Pre-entry Need For:										
planning studies			33	36	26	18	35	33	25	18
obtaining finances			20	21	15	5	14	18	17	10
planning a career			15	12	14	9	13	16	13	7
choosing a college			14	15	12	7	13	17	9	6
assessing aptitudes			15	12	8	7	15	13	8	6
updating learning skills			4	3	4	2	6	1	5	1
Post-entry Need For:										
planning studies			40	39	27	21	40	32	35	18
obtaining finances			23	30	16	8	18	18	21	18
finding University services			23	22	14	8	19	17	17	11
planning a career			23	13	11	6	16	12	11	13
solving problems			14	12	8	4	8	15	6	8
updating learning skills			7	7	8	2	7	5	6	6

APPENDIX C

DIFFERENCES BETWEEN SECOND BACHELOR'S AND MAIN SAMPLE ON SELECTED VARIABLES

APPENDIX C

DIFFERENCES BETWEEN SECOND BACHELOR'S AND MAIN SAMPLE ON SELECTED VARIABLES

TABLE A.2--Differences between second bachelor's and main sample on selected variables

Variables	2nd Bachelor #	2nd Bachelor % (N=24)	% of difference from main sample
Sex:			
Male	14	58.3	+27.7
Age:			
Age 30 to 34	10	41.7	+10.6
College:			
Professional/Human Services	1	4.2	-26.9
Professional/Technical	10	41.7	+24.8
Class Level:			
Junior	3	12.5	-26.3
Senior	18	75.0	+25.1
Credit Load:			
One course	9	37.5	+14.5
Previous College:			
Community college	8	38.1	-47.5
Four year private	15	71.4	+41.9
First Enrollment Age:			
Teens	17	70.8	+18.9

TABLE A.2 (cont'd)

Variable	2nd Bachelor		% of difference from main sample
	#	% (N=24)	
Marital Status:			
Never married	7	29.2	+22.1
Financial Dependents:			
Junior or senior high school children	3	12.5	-16.5
Spouse	9	37.5	+14.5
Occupations:			
Professional-Technical	9	37.5	+17.3
Financial Sources:			
GI benefits	8	33.3	+16.4
Educational loan from MSU	6	25.0	+10.2
Inheritance, gift, loan from family	6	25.0	+13.0

APPENDIX D

EDUCATIONAL MOTIVATION GROUPS SATISFACTION RATINGS OF UNIVERSITY SERVICES USED

APPENDIX D

EDUCATIONAL MOTIVATION GROUPS SATISFACTION

RATINGS OF UNIVERSITY SERVICES USED

TABLE A.3--Educational motivation groups satisfaction ratings of University services used at pre-entry

Groups/Service[a]	Planning Studies #	Mean	Planning a Career #	Mean	Obtaining Finances #	Mean	Choosing a College #	Mean
External Career Oriented:								
Faculty and staff	21	3.48	4	2.25			10	2.90
Assistant Dean for Lifelong Education	3	4.00	1	3.00	1	4.00		
Office of Admissions . . .	9	2.44			4	2.75		
Office of Financial Aids .					12	1.75		
Exploration Oriented:								
Faculty and Staff	11	3.73	6	4.50			7	4.71
Assistant Dean for Lifelong Education	2	5.00			1	5.00		
Office of Admissions . . .	7	1.57			2	2.00		
Office of Financial Aids .					5	3.60		
Career Improvement Oriented:								
Faculty and Staff	10	3.50	3	3.33	1	5.00	5	3.20
Office of Admissions . . .	2	2.50			4	2.50		
Office of Financial Aids .					4	2.25		
Renewal Oriented:								
Faculty and Staff	3	4.33					1	4.00
Assistant Dean for Lifelong Education	2	4.00			1	.00		

[a]Includes only those services used more than 10 times overall.

TABLE A.4--Educational motivation groups satisfaction ratings of University services used at post-entry

Groups/Service[a]	Planning Studies #	Planning Studies Mean	Planning a Career #	Planning a Career Mean	Finding Services #	Finding Services Mean	Obtaining Finances #	Obtaining Finances Mean
External Career Oriented:								
Academic advisor	26	3.54	11	2.91	9	4.11		
Faculty or staff	8	4.25	6	3.83	10	3.70	1	3.00
Assistant Dean for Lifelong Education							1	3.00
Counseling Center	1	3.00						
Office of Financial Aids							12	1.83
Exploration Oriented:								
Academic advisor	21	3.38	4	4.00	5	3.00		
Faculty or staff	7	3.14	4	4.00	11	4.00		
Assistant Dean for Lifelong Education	2	5.00	3	3.67	2	4.00	2	5.00
Counseling Center	2	5.00	1	1.00	4	3.50		
Office of Financial Aids							10	3.33
Career Improvement Oriented:								
Academic advisor	7	3.86	1	5.00	2	5.00	1	5.00
Faculty or staff	5	4.40	1	4.00	2	3.50	1	4.00
Office of Financial Aids							6	3.67
Renewal Oriented:								
Academic advisor	2	5.00	1	5.00				
Faculty or staff	1	4.00	1	5.00				
Assistant Dean for Lifelong Education							1	5.00

[a]Includes only those services used more than 10 times overall.

SELECTED BIBLIOGRAPHY

SELECTED BIBLIOGRAPHY

Books and Articles

American Council on Education, Committee on Adult Higher Education. Education and the Adult Student. ACE Special Report. Washington, D. C.: American Council on Education, 1972.

Bicknell, John H. "The Older Student Experience in Higher Education." Journal of the National Association for Women's Deans, Administrators, and Counselors 39 (Fall 1975): 17-20.

Boshier, Roger. "Factor Analysts at Large: A Critical Review of the Motivational Orientation Literature." Adult Education 27 (Fall 1976): 24-47.

_____. "Motivational Orientations of Adult Education Participants: A Factor Analytic Exploration of Houle's Typology." Adult Education 21 (Winter 1971): 3-26.

_____. "Motivational Orientations Revisited: Life-space Motivation and the Education Participation Scale." Adult Education 27 (Winter 1977): 89-115.

Boshier, Roger, and Riddell, Gail. "Education Participation Scale Factor Structure for Older Adults." Adult Education 28 (Spring 1978): 165-175.

Burgess, Paul. "Reasons for Adult Participation in Group Educational Activities." Adult Education 22 (Fall 1971): 3-29.

Burgess, Thomas C. The Older Student at Portland State University. Counseling Center Research Reports, Volume 8, No. 2. Portland State University, 1973.

Califano, Joseph A., Jr., and Berry, Mary F. Lifelong Learning and Public Policy: A Report Prepared by the Lifelong Learning Project, February 1978. U. S. Government Printing Office, Washington, D. C., 1978.

Carp, Abraham, Peterson, Richard, and Roelfs, Pamela. "Adult Learning Interests and Experiences." In Planning Non-traditional Programs, pp. 11-52. Edited by Kathryn Patricia Cross and John Valley and Associates. San Francisco: Jossey-Bass Publishing Company, 1976.

Clark, Burton, and Trow, Martin. "The Organizational Context." In College Peer Groups: Problems and Prospects for Research, pp. 17-70. Edited by Theodore M. Newcomb and Everett K. Wilson. Chicago: Aldine Publishing Company, 1966.

Corlich, Donald. Designing Sensible Surveys. Pleasantville, New York: Redgrave Publishing Company, 1978.

Doty, Barbara A. "Why Do Mature Women Return to College?" Journal of the National Association for Women's Deans, Administrators, and Counselors 29 (1966): 171-174.

Durchholz, Pat, and O'Connor, Janet. "Why Women Go Back to College." Change 5 (October 1973): 52,62.

Edgerton, Russell. "Education, Work, and FIPSE." In Relating Work and Education, pp. 115-125. Edited by Dyckman W. Vermilye. San Francisco: Jossey-Bass Publishing Company, 1977.

Farmer, Martha L. Student Personnel Services for Adults in Higher Education. Metuchen, New Jersey: Scarecrow Press, 1971.

Ferguson, M. A. "Adult Students in an Undergraduate University." Journal of College Student Personnel 7 (1966): 345-348.

Geisler, M. P., and Thrush, R. S. "Counseling Experiences and Needs of Older Women Students." Journal of the National Association for Women's Deans, Administrators, and Counselors 39 (1975): 3-8.

Glass, J. Conrad, and Harshberger, Richard F. "The Full-time, Middle-aged Adult Student in Higher Education." Journal of Higher Education 45 (March 1974): 211-218.

Hansen, Janet S. Adults and Higher Education. Occasional Paper No. 5. Claremont Institute for Administrative Studies, 1976.

Hiltunen, W. A. "Adults as College Freshmen." Journal of College Student Personnel 6 (1965): 208-211.

Holmstrom, Engin I. "Older Freshmen: Do They Differ from 'Typical' Undergraduates?" American Council on Education Research Reports, Volume 8, No. 7, October 1973. Los Angeles: American Council on Education, 1973.

Houle, Cyril O. The Inquiring Mind. Madison: University of Wisconsin Press, 1961.

Hunter, John E., and Cohen, S. H. "PACKAGE: A System of Computer Routines for the Analysis of Correlational Data." Educational and Psychological Measurement 29 (1969): 697-700.

Hunter, John E., and Gerbing, David W. Unidimensional Measurement and Confirmatory Factor Analysis. Occasional Paper No. 20. East Lansing: Michigan State University, The Institute for Research on Teaching, 1979.

Isaac, Steven, in collaboration with Michael, William B. Handbook in Research and Evaluation: A Collection of Principles, Methods, and Strategies Useful in the Planning, Design, and Evaluation of Studies in Education and the Behavioral Sciences. San Diego: Edits Publishers, 1978.

Jacobson, Myrtle S., and Offenbacher, Deborah I. Accent on Adults: The Small College Program at Brooklyn. Syracuse: Syracuse University, Publications in Continuing Education, Occasional Paper No. 19, 1970.

Johnstone, John W. C., and Rivera, Ramon J. Volunteers for Learning: A Study of the Educational Pursuits of American Adults. Chicago: Aldine Publishing Company, 1965.

Michigan State University. Task Force on Lifelong Education. The Lifelong University. A Report to the President. East Lansing: Michigan State University, 1973.

Morstain, Barry R., and Smart, John C. "Reasons for Participation in Adult Education Courses: A Multivariate Analysis of Group Differences." Adult Education 24 (1974): 83-98.

_____. "A Motivational Typology of Adult Learners." Journal of Higher Education 48 (November/December 1977): 665-679.

Newcomb, Theodore M.; Koenig, K. E.; Flacks, R.; and Warwick, D. P. Persistence and Change: Bennington College and Its Students After Twenty-five Years. New York: Wiley Publishing Company, 1967.

Nie, Norman H. et al. SPSS Statistical Package for the Social Sciences. 2nd Edition. New York: McGraw-Hill Book Company, 1975.

Parelius, Ann P. "Age Inequality in Educational Opportunity: The Needs of Adult Students in Higher Education." Adult Education 29 (Spring 1979): 180-193.

Schlossberg, Nancy K. "Adult Men: Education or Re-education?" Vocational Guidance Quarterly 19 (September 1970): 36-39.

Schlossberg, Nancy K., and Entine, Alan D. Counseling Adults. Monterey, California: Brooks/Cole Publishing Company, 1977.

Skelhorne, Jean M. The Adult Learner in the University: Does Anybody Care? Toronto: Ontario Institute for Studies in Education, 1975.

Trites, Donald G., editor. "Planning the Future of the Undergraduate College." New Directions for Higher Education 3 (Spring 1975).

U. S. Bureau of the Census. Current Population Reports: Population Characteristics (Advance Report): Series P-20, No. 260. "School Enrollment--Social and Economic Characteristics of Students: October 1977." Washington D. C.: U. S. Government Printing Office, March 1978.

Vermilye, Dyckman W., editor. The Expanded Campus. Current Issues in Higher Education. San Francisco: Jossey-Bass Publishing Company, 1972.

_____. Lifelong Learners: A New Clientele for Higher Education. Current Issues in Higher Education. San Francisco: Jossey-Bass Publishing Company, 1974.

_____. Relating Work and Education. Current Issues in in Higher Education. San Francisco: Jossey-Bass Publishing Company, 1977.

Young, Anne M. "Going Back to School at 35." Monthly Labor Review (October 1973): 39-41.

Microform Reproductions

Cross, Kathryn Patricia, and Zusman, Ami. The Needs of Non-traditional Learners and the Responses of Non-traditional Programs. Bethesda, Md.: ERIC Document Reproduction Service, ED 150 900, 1977.

DeWolf, V., and Lunneborg, P. W. Descriptive Information on Over-35 Undergraduate Students. Bethesda, Md.: ERIC Document Reproduction Service, ED 072 745, 1972.

Eckard, Pamela J. Developmental Tasks of Older Female Students in Undergraduate Education. Bethesda, Md.: ERIC Document Reproduction Service, ED 138 179, 1977.

Erickson, Mildred B. Counseling Needs of Adult Students. Bethesda, Md.: ERIC Document Reproduction Service, ED 039 569, 1970.

Fisher, Joseph A. Yesterday's Student--Tomorrow's Challenge. Bethesda, Md.: ERIC Document Reproduction Service, ED 149 305, 1977.

Hanson, G. R., and Lenning, O. T. Differences in Characteristics and Outlooks of Men and Women College Students at Various Age Levels. Bethesda, Md.: ERIC Document Reproduction Service, ED 078 840, 1973.

Hanle, Robert V. Adult Learners and Traditional Students. A Comparison of Values, Attitudes, and Aspirations. Bethesda, Md.: ERIC Document Reproduction Service, ED 127 892, 1976.

Jones, Alice W., and Diener, Thomas J. A Survey of Adult and Part-time Students at the University of Alabama. Bethesda, Md.: ERIC Document Reproduction Service, ED 126 354, 1975.

Kelman, Eugenia, and Staley, Bonnie. The Returning Woman Student: Needs of an Important Minority Group on College Campuses. Bethesda, Md.: ERIC Document Reproduction Service, ED 103 747, 1975.

Laurie, Joan. Needs and Social Characteristics of the Re-entered Student. Bethesda, Md.: ERIC Document Reproduction Service, ED 160 909, 1977.

Richards, Lillian S. Women's Perception of Their Psychological and Practical Needs Upon Re-entry to a Community College: Implications for Restructuring the Learning Environment. Bethesda, Md.: ERIC Document Reproduction Service, ED 130 713, 1976.

Schlaver, David Edward. The Uncommon School. The Adult Learner in the University. Bethesda, Md.: ERIC Document Reproduction Service, ED 145 755, 1977.

Schlossberg, Nancy K. Men in Transition: A Study of Adult Male Undergraduates at Wayne State University. Bethesda, Md.: ERIC Document Reproduction Service, ED 010 696, 1967.

Unpublished Materials

Barney, Anna Sue. "Characteristics and Educational Needs of Adult Undergraduate Students at the University of Oklahoma." Ph. D. dissertation, University of Oklahoma, 1972.

Baker, Louise D. "Characteristics, Needs, Motivations, and Perceptions of Mature Women Undergraduate Students at Three Public Four Year Universities in Florida." Ph. D. dissertation, Florida State University, 1977.

Bryant, Barbara Jean. "The Effect of Faculty and Administrative Attitudes Towards Students Over Twenty-five Years of Age on the Policies and Programs of Selected Universities in Texas." Ph. D. dissertation, Texas A. and M. University, 1977.

Burgess, Paul. "Educational Orientations of Adult Participants in Group Educational Activities." Ph. D. dissertation, University of Chicago, 1971.

Cassara, Beverly A. B. "A Study of Various Kinds of Educational Growth of Students in the Goddard College Adult Degree Program." Ed. D. dissertation, Boston University, 1970.

Erickson, Mildred B. "An Analysis of Selected Characteristics and Needs of Adult Undergraduate Students Attending Michigan State University Fall Term 1966." Ph. D. dissertation, Michigan State University, 1968.

Espersson, Margaretha Anna. "The Mature Woman Student Returning to Higher Education in a Liberal Arts College for Adults." Ph. D. dissertation, Columbia University, 1975.

Gelwick, Beverly Prosser. "The Adult Woman Student and Her Perceptions and Expectations of the University Environment." Ph. D. dissertation, University of missouri--Columbia, 1975.

Grabowski, Stanley M. "Motivational Factors of Adult Learners in a Directed Self-study Bachelor's Degree Program." Ph. D. dissertation, Syracuse University, 1972.

Hine, Peggy Ann. "A Typology of Expressed Needs of Adult Students Prior to Entry and Following Two Terms of Study at Michigan State University During the 1974-75 Academic Year." Ph. D. dissertation, Michigan State University, 1975.

Hunt, Beverly. "Characteristics, Perceptions, and Experiences of Married Women Students at Lansing Community College." Ph. D. dissertation, Michigan State University, 1965.

Jacobowitz, M. Alan. "Differences Between Adult Part-time and Full-time College Students." Ed. D. dissertation, Rutgers University, 1976.

Kasworm, Carol E. "Student Personnel Professionals as Continuing Educators." Paper Presented at the American College Personnel Association Conference, Detroit, Michigan, March 1978 (typewritten).

_____. "Undergraduate Support Services at the University of Georgia: A Comparison of the Needs of the Older and Younger Student." Ed. D. dissertation, University of Georgia, 1977.

Knox, Alan Boyd. "Adult College Students: An Analysis of Certain Factors Related to the Characteristics of Students Attending a University Adult College." Ed. D. dissertation, Syracuse University, 1958.

Mahone, Denise Felicia. "An Assessment of Supportive Needs of Mature and Traditional Aged Women Students at The Ohio State University." Ph. D. dissertation, The Ohio State University, 1977.

Mathews, Marion Ellen. "Educational Goals Orientation Related to Selected Status Characteristics of Adult Students at Wichita State University." Ph. D. dissertation, The American University, 1976.

Michigan State University. "Student Age Distribution." Reports prepared by the Office of the Registrar, Fall 1970 through Fall 1979.

_____. "Age Distribution of Headcount Enrollments, East Lansing Campus, Fall Terms, 1968-1977." Report prepared by the Office of Institutional Research, August 1978.

Rawlins, Melanie E. "The Needs Identified by Over-thirty Undergraduate Students Concerning Their Experiences of Returning to College." Ph. D. dissertation, University of Nebraska, 1977.

Sheffield, S. B. "The Orientations of Adult Continuing Learners." Ph. D. dissertation, University of Chicago, 1962.

Stewart, John Clarence. "The Urgency of Need for Counseling Services of University Extension Adult Students." Ph. D. dissertation, Arizona State University, 1976.

Tauscher, Mary R. "A Comparative Study of Selected Characteristics and Perceived Needs, Interests and Goals of Older and Younger Students Enrolled in Undergraduate Degree Programs at the University of Wisconsin--Milwaukee." Ph. D. dissertation, University of Wisconsin--Milwaukee, 1977.

Williams, Ellen U. "Non-traditional-Aged Students: Characteristics and Needs of Adults Enrolled in the University." Ph. D. dissertation, Bowling Green State University, 1977.