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AN ACADEMIC AND RETENTIVE COMPARISON OF ADULT TO
YOUNGER STUDENTS ENTERING A FOUR-YEAR INSTITUTION OF
HIGHER EDUCATION

The University of Oklahoma

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THE UNIVERSITY OF OKLAHOMA
GRADUATE COLLEGE

AN ACADEMIC AND RETENTIVE COMPARISON OF ADULT TO
YOUNGER STUDENTS ENTERING A FOUR-YEAR
INSTITUTION OF HIGHER EDUCATION

A DISSERTATION
SUBMITTED TO THE GRADUATE FACULTY
in partial fulfillment of the requirements for the
degree of
DOCTOR OF PHILOSOPHY

BY
CHRIS AUBREY PURCELL

Norman, Oklahoma

1982

AN ACADEMIC AND RETENTIVE COMPARISON OF ADULT TO
YOUNGER STUDENTS ENTERING A FOUR-YEAR
INSTITUTION OF HIGHER EDUCATION

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CHAPTER I

THE PROBLEM

Introduction

Adult students are entering institutions of higher education in increasing numbers. Over 33 percent of the increase in undergraduate enrollment in four-year colleges and universities from 1970 to 1977 were older students.¹ Between 1972 and 1978 there was a 24.3 percent increase in the proportion of students enrolled in institutions of higher learning over 25 years of age.²

This national trend of adult learners was evidenced at the University of Oklahoma in recent years. On that campus the 22 year-old and over category of undergraduates has shown an increase of nine percent since 1975 while the 21 year-old and under category has shown a decrease of one-half percent.³

¹U.S. Bureau of Census, "School Enrollment—Social and Economic Characteristics of Students: October 1977," Current Population Reports, Series P-20, No. 333 (Washington, D.C.: U.S. Department of Commerce, 1979), p. 3.

²U.S. Bureau of Census, "School Enrollment—Social and Economic Characteristics of Students: October 1978 (Advance Report)," Current Population Reports, Series P-20, No. 335 (Washington, D.C.: U.S. Department of Commerce), 1979.

³Judith Wall, "Students: They're Not Getting Younger," Today, Vol. 9, No. 3 (Norman: University of Oklahoma Press, November 1979), p. 1.

The national statistics compared to the University of Oklahoma indicate that the University, while experiencing a mild influx of new adult students, is not up to the national average.

This increase in adult students in higher education has prompted administrators and educators to examine their institutions and policies in light of this increased population. While some are still doubting that in the near future these adult students may be a significant proportion of the student population of higher education, others are aware of the promise of this new group—the promise being its potentially large size.¹

A concerned educator might ask, "Are we adequately prepared to accomodate the needs of these new students?"² A careful comparison of adult to younger students by demographics, academic choices, academic performance and retention at a particular institution might be a plausible starting point.

An adult student or any other student considering a college or university for an academic pursuit is probably concerned with how well he or she will do once there. Not only is there concern about grades, but there is concern for how likely are his or her chances of graduating.³ Therefore, the importance of an institution's having and making this information available for a prospective student's self assessment is an area of concern that needs attention. Overall retention studies of students at the University of Oklahoma have been done by

¹Rosalind E. Loring, "Adapting Institutions to Adults," Paper presented at the National Conference on Higher Education, American Association for Higher Education—33rd Annual (Chicago, Illinois: March 20, 1978), p. 5.

²Ibid.

³Alexander W. Astin, Predicting Academic Performance in College (New York: The Free Press, 1971).

the Student Affairs Research Area. However, a longitudinal examination of retention comparing the University's adult population to its younger population has not been presented.

Another issue facing higher education includes the decrease in the number of persons 18-24 years old, which causes financial concerns. The projections for the future of high-school graduating classes between 1979 and 1995 in Oklahoma show a decline of two percent.¹ Although this is a small percentage compared to some other states, it is pertinent considering the shrinking fiscal resources.² The University of Oklahoma needs a complete description of how adult as well as younger students are progressing.

Significance of the Problem

The significance of this study was a better understanding of entering adult students by examining their academic characteristics and retention as compared to younger entering students.

Rosalind Loring points out the need for understanding adult students in higher education better with her remark, ". . .for me to assert that surely we have attempted to adapt, but our efforts, en bloc, have been inadequate."³ Kimball and Sedlacek documented differences in older and younger undergraduates at the University of Maryland and presented the need for institutions to

¹Donald R. McNeil, "America's Adult Students Need an Open University," The Chronicle of Higher Education, Vol. 20, No. 10 (May 5, 1980), p. 64.

²Iris Garfield, The Condition of Education, Part 2, (Washington, D.C.: U.S. Government Printing Office, 1980), p. 11.

³Loring, "Adapting Institutions to Adults," p. 14.

consider all students when planning.¹ A study at Washington University looked into whether (1) biographical data and (2) measures of aptitudes were related to academic success of adult students. Their results indicated the use of biographic information, plus a standard battery of tests formed a good base for achievement prediction.² Each study indicates the need for more information about adult students in institutions of higher education. Each of these research projects deals with the academic achievement of adults, but none have dealt with retention. Academic achievement is certainly an integral part of retention, but Astin asserts, ". . .the student's ability to stay in college is a more appropriate measure of his success. . ."³

Examining the adult students which one four-year institution has retained and the academic factors and characteristics of this group as compared to younger students should prove helpful to other four-year institutions. With this knowledge old standards could be re-evaluated for relevancy such as admission criteria. Therefore, this study should be of significance to those concerned with admission and retention of adult students at institutions of higher learning.

¹Ronald L. Kimball and William E. Sedlacek, "Characteristics of Older Undergraduates at the University of Maryland," Counseling Center Research Report #7-71 (College Park, Maryland: Counseling Center, 1971), pp. 5-8.

²Philip H. Dubois and King M. Wienge, "Factors Associated with the Achievement of Adult Students," Cooperative Research Project No. 1338 (St. Louis: Washington University, 1964).

³Astin, Predicting Academic Performance in College.

Statement of the Problem

The quest of this study was to examine adult students at the University of Oklahoma by comparison to younger students in retention, demographics, academic characteristics and performance. Specifically, this study was an attempt to identify differences between adult students who enter a four-year institution after age 20 and younger students to determine if these differences were significant.

Four basic research objectives were present in this study. Research Objective I was concerned with demographic characteristics of adult and younger students. Research Objective II dealt with the academic characteristics of adult and younger students. Research Objective III viewed the academic performance of adult students compared to younger students. Research Objective IV focused on the retention rates and patterns of adults and younger students. Consequently, the problem of this study involved the analysis of data which would reveal answers to questions associated with these four research objectives.

Research Questions Relevant to Research Objective I:

1. Are there differences in the sex ratios of adult and younger students?
2. Are there differences in ethnic origins of adult and younger students?
3. Are there differences in marital status of adult and younger students?

Research Questions Relevant to Research Objective II:

4. Are there differences in the predictive ability of ACT scores between adult and younger students?

5. Are there differences on the ACT scores of adult and younger students?
6. Are there differences on the selection of majors of adult and younger students?
7. Are there differences in changing majors of adults and younger students?

Research Questions Relevant to Research Objective III:

8. Are there differences in academic performance of adult and younger students taking ability into consideration?
9. Are there differences in academic performance at adult and younger students not taking ability into consideration?

Research Questions Relevant to Research Objective IV:

10. Are there differences in full-time versus part-time status in adult and younger students?
11. Are there differences in stopout rates of part-time adult and younger students?
12. Are there differences in stopout rates of full-time adult and younger students?
13. Are there differences in dropout rates of adult and younger students?
14. Are there differences in the graduation rates of adult and younger students?

Definitions for the Study

The following operational definitions are pertinent to the study:

ACT - American College Test. The scores from this test are used by many colleges and universities as a criteria for admission. The ACT has four component parts; English usage, mathematics usage, social studies reading, and natural sciences reading. Each component test has a score and there is a composite score for the entire test.

Adult Students - Adult students are those entering the university after they have reached the age of twenty-one years.

Dropout - A dropout is any student who was not enrolled at the university of Oklahoma during the last semester of the fourth year, Spring 1981.

Full-time - Full-time is an enrollment status where a student is enrolled in twelve or more credit hours.

Graduate - Student who accumulated 120 hours by the end of Spring 1981.

Non-traditional Students - Non-traditional students are those who do not enter the university the fall semester after graduating from high school.

Part-time - Part-time is an enrollment status where a student is enrolled in less than twelve credit hours.

Persister - A persister is a student who was enrolled or who had previously graduated after the last semester of the fourth year, Spring 1981. A persister may include the student who is a stopout, but re-enrolls sometime during the four years.

Retention - Retention is the term used for the process of retaining or keeping students enrolled in school until they graduate.

Stopout - A stopout is a student who was enrolled at the beginning of the four year period, fall 1977, stopped out or quit school for a least one semester or more and re-enrolled during the four years, fall 1977 through spring 1981.

Younger Students - Younger students are those students entering the university before they have reached the age of twenty-one years.

Limitations of the Study

This study was limited to an entry-level student population of a large southwestern university, the University of Oklahoma. The students studied were not those returning, but new entering students whether adult or younger with less than six college credit hours. This study was further limited to a summary of the selected characteristics and educational data which seemed of significance in the problem being investigated.

Assumptions of the Study

The assumptions of this study were two-fold:

1. Entry-level students at the University of Oklahoma are representative of entry-level students at other institutions of higher learning.
2. Environment at the University of Oklahoma is representative of environment of other institutions of higher learning.

Organization of the Study

An introduction to the investigation was presented in Chapter I. Included were the introduction, the statement of the problem, the significance of the problem, the definitions for the study, the limitations of the study, and the assumptions of the study.

Chapter II presents a review of literature which is related to the study. Included are adult development theories and other adult educational studies as they relate to this study.

Chapter III presents the methodology used in the study. Data acquisition and methods of analyses are described.

Chapter IV presents the results of statistical analyses, the testing of the hypotheses and the interpretation of the data.

Chapter V presents a summary of the study. Conclusions were drawn and recommendations were made from the results of the study.

CHAPTER II

REVIEW OF LITERATURE

Introduction

Numerous works have been generated since the late sixties in the field of adult education,¹ but few have dealt with education of adults in traditional four-year programs at institutions of higher learning. Adult educators have differing opinions as to what a university's role should be for the education of adults. Some believe in making the regular university program easily accessible to adults.² Others believe in adding non-credit short courses for adults. Still others believe in making available resources such as concerts, film libraries and cultural events. Then there is the group which believes in extending the university to the community in the form of extension courses.³ One of the newest ideas is that of an open university. This type university would serve as a credit bank for adult students; credit could be earned by competency-

¹Huey B. Long et al., Changing Approaches to Studying Adult Education (San Francisco: Jossey-Bass, Inc., Publishers, 1980), p. 122.

²Cyril O. Houle, "The Evening College," Journal of Higher Education (October 1954), pp. 363-73.

³Malcolm S. Knowles, Higher Adult Education (Washington, D.C.: American Council on Education, 1969), pp. 25-26.

based testing, correspondence courses, or life experience in addition to traditional classroom credit.¹

Although there are the many ideas about how universities could be serving adults, the fact is that many institutions of higher education are just discovering the adult as a learner in their institutions.² For institutions with adult student populations and those recruiting adult learners, understanding adult development is essential.

For the purpose of this study, the review is divided into two major sections: Adult Development and Research Studies.

Adult Development

Neugarten points out that until recently psychologists have been primarily concerned with the first two of the seven decades of life.³ The degree of popular interest in total adult development is now indicated by the array of books on the topic. Three major examples are Sheehy's Passages,⁴ Levinson's Seasons of a Man's Life,⁵ and Gould's Transformations.⁶ Although each of these books has its own message, they all agree on one main theme: adults continue to

¹Donald R. McNeil, "America's Adult Students Need An Open University," The Chronicle of Higher Education 20 (May, 1980), p. 64.

²Long, Changing Approaches to Studying Adult Education, p. 133.

³Bernice L. Neugarten, "The Developmental Processes of the Adult," in Lifelong Learning in the Nation's Third Century, ed. James R. Broschart (Washington, D.C: U.S. Government Printing Office, 1977), p. 19.

⁴G.M. Sheehy, Passages: Predictable Crises of Adult Life (New York: E. P. Dutton, 1976).

⁵Daniel J. Levinson, The Seasons of a Man's Life (New York: Knopf, 1978).

⁶R. Gould, Transformations (New York: Simon & Schuster, 1978).

change and develop in significant ways. Theories of adult development are of value because they enable us to begin to understand the important contribution of certain educational programs to the adult students. In many post secondary institutions the mature adult in the academic setting was assumed to learn like an adolescent¹ and was treated accordingly.

As Knox states, the knowledge and use of generalizations about adult development can help educators:

- (1) To understand age-related characteristics of adults in a community or in a classroom at one point in time; and
- (2) To understand the trends and processes of change in individual adults over time.²

Research and publications on adult development have been increasing in the past two decades as they should with the increased interest in adult education. To carefully examine and review some of the most prominent theories, a distinction between two major themes is helpful. Cross³, Lasker and Moore⁴ use "age" and "stage" development as two categories which seems to be an emerging trend. For this review, these two divisions provide the clearest organizational pattern.

¹Malcolm Knowles, The Adult Learner: A Neglected Species (Houston: Gulf Publishing Co., 1973), p. 34.

²Alan B. Knox, Adult Development and Learning (San Francisco: Jossey-Bass Publishers, 1978), p. 7.

³K. Patricia Cross, Adults as Learners (San Francisco: Jossey-Bass Publishers, 1981), pp. 153-185.

⁴Harry Lasker and James Moore, Adult Development and Approaches to Learning (Washington, D.C.: U.S. Government Printing Office, 1980), pp. 3-35.

Age-Related Development

The "age" related theories of adult development are sometimes called phasic development. They are, as their title implies, generally related to a person's age. The underlying belief is that qualitative changes in the way a person reacts and understands are age-related. Developmental changes are seen in fixed periods of adult life or "phases". Some theorists refer to these phases as seasons within the life cycle.

. . .To speak of seasons is to say that the life course has a certain shape, that it evolves through a series of definable forms.¹

Theorists who primarily fall in the age related stream are Gould², Jung³, Levinson⁴, Sheehy⁵, Neugarten⁶, Weathersby⁷ and Buehler.⁸

¹Daniel Levinson. The Seasons of a Man's Life, (New York: Knopf, 1978), pp. 6-7.

²Roger Gould. Transformations: Growth and Change in Adult Life, (New York: Simon and Schuster, 1978).

³Carl G. Jung. "The Basic Postulates of Analytic Psychology" in Varieties of Personality Theory, ed. H. M. Ruitenbeck (New York: Dutton, 1964).

⁴Levinson, The Seasons of a Man's Life.

⁵Sheehy, Passages: Predictable Crises of Adult Life.

⁶Neugarten, "Adult Personality: Toward a Psychology of the Life Cycle," in Middle Age and Aging, ed. B. L. Neugarten (Chicago: University of Chicago Press, 1968).

⁷Rita P. Weathersby, "Ego Development, " in The Modern American College: Responding to the New Realities of Diverse Students and a Changing Society, A. W. Chickering et al. (San Francisco: Jossey-Bass, 1981), pp. 51-74.

⁸Arthur W. Chickering et al., The Modern American College: Responding to the New Realities of Diverse Students and a Changing Society (San Francisco: Jossey-Bass, 1981), pp. 17-18.

Erikson is considered by some to be "stage"¹ related in his theory of development and "age" related by others.² His theory while developmental or stages is age related too.³ He conceived the life course as eight tasks which happen at certain phases of a person's life. If one of these tasks is not resolved, problems will persist for the individual throughout the rest of the life course.

Jung's premise was that at different phases or parts of a person's life, his or her inner self will command expression during certain ages.⁴

In the early sixties Buehler determined certain developmental phenomena happening during specific age periods. The age period of 18 to 25 was when the young adult concentrated on an occupational field which was the need for "adaptive self-limitation." The age period of 25 to 45 was a stage of determining occupation, marriage and family which was exhibiting the need for "creative expansion." The age period of 45 to 65 was a time for critical review and assessment which was a need for "establishment of inner order". The last age period of after 65 years was a time of retirement and settling down which was the need for "self-fulfillment". Her work was based on histories from elderly people.⁵

¹K. Patricia Cross, Adults as Learners, pp. 168-169.

²Harry M. Lasker and James F. Moore, Adult Development and Approaches to Learning, pp. 5-6

³Erik Erikson. Identity, Youth, and Crisis (New York: Norton, 1968).

⁴Jung, "The Basic Postulates of Analytic Psychology."

⁵Arthur W. Chickering et al., The Modern American College: Responding to the New Realities of Diverse Students and a Changing Society, pp. 17-18.

In the late sixties and seventies, Neugarten was theorizing about adult development and the importance of certain life functions or events happening at the proper time. She emphasized the timing aspect of these developments. She postulates that if these events happen "on time" they will not cause as much stress or upset, but will be accepted as the normal life course.¹

In the early seventies Gould did research with therapy groups of similar aged persons and found that definite socio-psychological themes reoccured. He postulated that these themes were connected to childhood assumptions. His view of adult development involved addressing and redefining these childhood assumptions during fixed age periods.² Gould's work is particularly relevant for educators because it draws implications about psychological conflicts that could affect how adults experience educational programs.³ Gould, Jung and Freud all stress treating assumptions which were formed in childhood and were brought forward to adulthood.⁴

Weathersby was primarily concerned with ego development and does associate it with an age period. She specifically emphasized the role post secondary education plays in ego development of the more traditonal aged student.⁵

³Bernice Nuegarten. "Personality and Aging," in J. E. Birren and K. W. Shaie, eds., Handbook of the Psychology of Aging, (New York: Van Nostrand Reinhold, 1977).

²Gould, Transformations: Growth and Change in Adult Life.

³Lasker and Moore, Adult Development and Approaches to Learning, pp. 11-13

⁴Ibid., p. 10.

⁵Arthur W. Chickering et al., The Modern American College: Responding to the New Realities of Diverse Students and a Changing Society, pp. 51-74.

The wide readership of Passages: Predicatable Crises of Adult Life¹ indicated the interest adults have in learning about their development process. Sheehy's work was based primarily on interviews with 115 adults and was phasic in approach. During these interviews she collected three types of information: 1) ways adults viewed themselves and their inner life changes; 2) if there were predictable crises for couples; and 3) how developmental rhythms of adult men and women differed.² This study was written in less scientific terminology and was a popular book with adults.

Levinson is considered one of the most advanced in terms of the phasic or age-related approach to adult development.³ His major work involved forty middle-aged men who were interviewed in depth several times. From these interviews detailed biographies were constructed with definite phasic patterns prevailing. The major disadvantage of the study was the exclusion of females. The results showed clusterings of key developmental tasks which were age-related. There were apparent stable periods and transition periods. The transition periods were times to question the previous life structures or periods of stability. The purpose of each stable period was to build a life structure with decisions pursuant to this structure.⁴ Figure 1 shows Levinson's life phases for the male.

Age-related theorists suggest that age boundaries should be used as rough guidelines and that individual differences be taken into consideration for

¹Sheehy, Passages: Predictable Crises of Adult Life.

²Cross, Adults as Learners, p. 170.

³Levinson, The Seasons of a Man's Life.

⁴Ibid, p. 49.

Figure 1

Male Life Cycle Eras

Age (Chronological)	Era
Over 65	<u>Late Adulthood Era.</u> As yet we have little empirical knowledge of the tasks of late adulthood. Traditional conceptions of the era support Erikson's observation that the attainment of wisdom is central to advanced age. A man becomes less central in the affairs of work and family, but may still exert considerable influence as an informal teacher, elder statesperson, and peacemaker.
60-65	<u>Late Adult Transition Era.</u>
45-60	<u>Middle Adulthood Era.</u> In this era, a man finds himself a member of the dominant generation. In the world of work and career, he is regarded as a senior member and within his extended family, he is increasingly looked to for strength and support. Concurrently, he begins to experience his own physical decline—even if slightly—and to become aware of his mortality. In light of recognition of this, a man is moved to reconsider his earlier choices and his current life structure. In the face of this review, he may choose either to change or to affirm various features of his structure.
40-45	<u>Mid-life Transition Era.</u>
22-40	<u>Early Adulthood Era.</u> In this era, a man must learn to choose, to create, and to maintain his own life structure. This requires learning about the range of options regarding elements of the life structure, including options regarding understanding of oneself and others and for developing oneself in work and career. Early adulthood also requires that a man learn about commitment to important life choices. During the middle of the era, he commits himself to a particular range of possibilities and attempts to realize these in his life.
17-22	<u>Early Adult Transition Era.</u>
3-17	<u>Childhood and Adolescence Era.</u> The tasks of this era revolve around learning the axioms of living, including social skills and knowledge of various types of adult activity. A man is not yet primarily responsible for the construction of his own life structure, but instead lives within the structures created and maintained by others.
0-3	<u>Early Childhood Transition Era.</u>

Source: Adapted from Levinson, Daniel J. The Season of a Man's Life. New York: Knopf, 1978.

each person. There is a continuum among these researchers involving the age factor.¹ Lasker and Moore believe adults become more attracted to education during the transition from one life period to the next.² So educators need to be cognizant of adult developmental theory to help adult students perform at their fullest potential.

The stage development approaches to adult development differ from age-related in the independence from fixed ages. Stage theorists report development progresses through identifiable stages at different times for each individual and displays qualities that were not present at the previous stage.

Loevinger's theory stresses the involvement of personality and the way an adult understands himself or herself and his or her relationship to others.³ She uses the term "ego" to mean the process which a person creates understanding of self and others. Her theory of development is a series of stages which she calls milestones of ego development shown in Figure 2.

The nine developmental positions proposed by Perry⁴ are shown in Figure 3. His stage approach of developmental theory was devised by interviewing 112 males and 28 females from Harvard and Radcliffe during their four years in college from the classes of 1958, 1962 and 1963 with 82 males and 2 females graduating. He wanted to determine how college students thought and the impact of their education on their intellectual and ethical development.

¹Cross, Adults as Learners, p. 171.

²Lasker and Moore, Adult Development and Approaches to Learning, p. 13.

³Jane Loevinger. Ego Development: Conceptions and Theories (San Francisco: Jossey-Bass, 1976).

⁴William G. Perry, Jr. Forms of Intellectual and Ethical Development in the College Years (New York: Holt, Rinehart and Winston, 1970).

Figure 2
Milestones of Ego Development

Stage	Impulse Control, Character Development	Interpersonal Style	Conscious Preoccupations	Cognitive Style
Presocial Symbiotic		Autistic Symbiotic	Self vs. nonself	
Impulsive	Impulsive, fear of retaliation	Receiving, dependent, exploitative	Bodily feelings, especially sexual and aggressive	Stereotyping conceptual, confusion
Self-protective	Fear of being caught, externalizing blame, opportunistic	Wary, manipulative, exploitative	Self-protection, trouble wishes, things, advantage, control	
Conformist	Conformity to external rules, shame, guilt	Belonging, superficial niceness	Appearance, social acceptability, banal feelings,	Conceptual simplicity stereotypes, cliches
Conscientious-conformist	Differentiation of norms, goals	Aware of self in relation to group, helping	Adjustment, problems, reasons, opportunities (vague)	Multiplicity
Conscientious	Self-evaluated standards, self-criticism, guilt for consequences, long-term goals and ideals	Intensive, responsible mutual, concern for communication	Differentiated feelings, motives for behavior, self-respect, achievements, traits, expression	Conceptual complexity, idea of patterning
Individualistic	Add: Respect for individuality	Add: Dependence as an emotional problem	Add: Development, social problems, differentiation of inner life from outer life	Add: Distinction of process and outcome
Autonomous	Add: Coping with conflicting inner needs, toleration	Add: Respect for autonomy, interdependence	Vividly, conveyed feelings integration of physiological, and psychological causation of behavior, role conception, self-fulfillment, self in social context	Increased conceptual complexity, complex patterns, toleration broad scope, objectivity
Integrated	Add: Reconciling inner conflicts, renunciation of unattainable	Add: Cherishing of individuality	Add: Identity	

Source: Jane Loevinger. Ego Development: Conceptions and Theories, (San Francisco: Jossey-Bass, 1976), pp. 24-25.

Figure 3
Positions of Intellectual and Ethical Development

Main Line of Development

Position 1: Basic Duality. The student sees the world in polar terms of we-right-good vs. other-wrong-bad. Right Answers for everything in the Absolute, known to Authority whose role is to mediate (teach) them. Knowledge and goodness are perceived as quantitative accretions of discrete rightness to be collected by hard work and obedience (paradigm: a spelling test).

Position 2: Multiplicity Pre-Legitimate. The student perceives diversity of opinion, and uncertainty, and accounts for them as unwarranted confusion in poorly qualified Authorities or as mere exercises set by Authority "so we can learn to find The Answer for ourselves."

Position 3: Multiplicity Subordinate. The student accepts diversity and uncertainty as legitimate but still temporary in areas where Authority "hasn't found the Answer yet." He supposes Authority grades him in these areas on "good expression" but remains puzzled as to standards.

Position 4: Multiplicity Correlate or Relativism Subordinate. (a) The student perceives legitimate uncertainty (and therefore diversity of opinion) to be extensive and raises it to the status of an unstructured realm of its own in which "anyone has a right to his own opinion," a realm which he sets over against Authority's realm where right-wrong still prevails, or (b) the student discovers qualitative contextual relativistic reasoning as a special case of "what They want" within Authority's realm.

Position 5: Relativism Correlate Competing or Diffuse. The student perceives all knowledge and values (including Authority's) as contextual and relativistic and subordinates dualistic right-wrong functions to the status of a special case, in context.

Position 6: Commitment Foreseen. The student comprehends the necessity of orienting himself in a relativistic world through some form of personal Commitment (as distinct from unquestioned or unconsidered commitment to simple belief in certainty).

Position 7: Initial Commitment. The student makes an initial Commitment in some area.

Position 8: Orientation in Implications of Commitment. The student experiences the implications of Commitment, and explores the subjective and stylistic issues of responsibility.

Position 9: Developing Commitment(s). The student experiences the affirmation of identity among multiple responsibilities and realizes Commitment as an ongoing, unfolding activity through which he expresses his life style.

Conditions of Delay, Deflection, and Regression

Retreat. Active denial of the potential of legitimacy in Otherness; the student entrenches in the dualistic, absolutistic structures of Position 2 or 3. Variants of retreat involve reaction, negativism, and becoming a dedicated reactionary or dogmatic rebel.

Temporizing. A prolonged pause (full year) in any position, exploring its implications or explicitly hesitating to take the next step but not entrenching in the structures of Escape.

Escape. Settling for Position 4, 5 or 6 by denying or rejecting their implications for growth, using the detachment of these positions to deny responsibility for commitment through passive or opportunistic alienation.

Source: William G. Perry, Jr. Forms of Intellectual and Ethical Development in the College years (New York: Holt, Rinehart and Winston, 1970), pp. 9-10.

Figure 4

Kohlberg's Stages of Moral Judgment

Basis of Moral Levels Judgments	Stages of Development
I. Moral value resides in external, quasi-physical happening, in bad acts, or in quasiphysical needs rather than in persons and standards.	Stage 1: Obedience and punishment orientation. Egocentric deference to superior power or prestige or to a trouble-avoiding set. Objective responsibility.
II. Moral value resides in performing good or right roles, in maintaining the conventional order and the expectancies of others.	Stage 2: Naively egoistic orientation. Right action is that which instrumentally satisfies the self's needs and occasionally others' needs. Awareness of relativism of value to each actor's needs and perspectives. Naive egalitarianism and orientation to exchange and reciprocity.
	Stage 3: "Good-boy" orientation to approval and to pleasing helping others. Conformity to stereotypical images of majority or natural role behavior, and judgment by intentions.
III. Moral value resides in conformity by the self to shared or shareable standards, rights, or duties.	Stage 4: Authority and social-order maintenance orientation. Orientation to "doing duty" and to showing respect for authority and maintaining the given social order for its own sake. Regard for earned expectations of others.
	Stage 5: Contractual, legalistic orientation. Recognition of an arbitrary element or starting point in rules or expectations for the sake of agreement. Duty defined in terms of contract, general avoidance of violation of the will or rights of others, and majority will and welfare.
	Stage 6: Conscience or principle orientation. Orientation not only to actually ordained social rules but to principles of choice involving appeal to logical universality and consistency. Orientation to conscience as a directing agent and to mutual respect and trust.

Source: Harry Lasker and James Moore. Adult Development and Approaches to Learning, (Washington, D.C.: U.S. Government Printing Office, 1980), p. 25.

Perry's theory ranges from absolute terms to a self identity in a realistic world. The basic limitation of Perry's theory is that it is based on a study done at two highly selective schools. The question is whether his findings are generalizable to adults at different levels.¹

Another prominent stage theorist is Kohlberg. Kohlberg's model came after a study at Harvard involving interviews with a small group of people.² His theory of cognitive development is set forth in his model of stages of moral judgment in Figure 4.

Kohlberg's work created controversy, but has had an impact on educational research and educational practice.³

Each of the stage theorists work is sequential and increasingly complex at each level. Educators with knowledge of adult stage development can provide the proper stimulation for adults to learn and develop.

Research Studies

Several research studies have been completed relating older and younger students academic performance, others have been completed comparing prediction of academic performance, still others have been completed researching differences in characteristics, but none have been completed comprehensively comparing adult and younger students by relating demographic characteristics, academic characteristics, academic performance and retention rates.

¹Lasker and Moore, Adult Development and Approaches to Learning, p. 24.

²Cross, Adults As Learners, pp. 182-185.

³Lasker and Moore, Adult Development and Approaches to Learning, p. 26.

Academic Performance

Many studies suggest adult students are more successful in academic performance as measured by college grade point average than younger students. In a study of full-time day students at St. Petersburg Junior College researchers found that students 23 years of age or older earned higher GPA's than their younger counterparts. This same study found students 40 years of age or older having the highest levels of academic performance.¹ Random samples of adult and younger students at another junior college found that GPA's earned by adult students exhibited greater variance and were higher than those earned by younger students.² A study involving 433 male San Diego Adult School graduates ranging in age from 18 to 25 showed that the group of adults, those 21 years or older, made higher grades than their own high school grade point average and were higher than those of the younger students, those under 21 years of age.³

In a study of veterans, mature students (those 21 years of age at entry) and younger students at Towson State College the mature and younger students tended to perform at about the same GPA levels.⁴ Other studies have shown

¹W. F. Stephen and J. C. Wheeler, "Facts and Figures," Adult Leadership, 1969 (December), pp. 171-172.

²J. D. Ryan, "A Comparison of the Academic Achievement of Adult and College-Age Junior College Full Time Day Students" (Ph.D. Dissertation, Wayne State University, 1969).

³J. L. Winslow, "The 1962-1967 College Study of San Diego Adult Graduates," (M.Ed. Thesis, United States International University, ERIC Research Report: ED 035 809).

⁴Jeffrey Reed and Michael Murphy, "Academic Performance of Mature Adults and Veterans," College and University (Winter, 1975), pp. 129-144.

that in general adults perform at least as well as traditional students in class achievement (grade point average).^{1,2,3,4,5}

One research project based on data from 6500 students who responded to the questionnaire, Students Reactions to College, which was designed by the Educational Testing Service and not grade reports showed that students perceive less difficulty with college the older they were.⁶

Prediction of Academic Performance

Traditional admission criteria rely on students most recent academic performance. For the new freshman grade point average and high school rank is generally the best predictor of academic success. For transfer students the

¹J. L. Winslow, "The 1962-1967 College Study of San Diego Adult Graduates," (M.Ed. Thesis, United States International University, ERIC Research Report: ED 035 809).

²Jeffrey Reed and Michael Murphy, "Academic Performance of Mature Adults and Veterans," College and University (Winter, 1975), pp. 129-144.

³M. C. Fagin, "Life Experience has Academic Value: Analysis of Performance of 319 Missouri Women on Three Examinations of the College Level Entrance Program," paper presented at the Adult Educational Research Conference, New York City, February, 1971 (ERIC Research Report: ED 047 219).

⁴D. Hull, "Maturity as a Variable in Predicting Academic Success," (University of Missouri, College of Education, 1970, ERIC Research Report: ED 045 039).

⁵S. A. Perkins, "Success of Mature Age Students in University Studies," Alberts Journal of Educational Research, (June 1971) 17 (2), pp. 105-112.

grade point average at the institution they are transferring from is usually the best predictor. A number of sources document these findings.^{1,2,3,4,5}

In a study by Seltzer of traditional and older students (those 22 years of age and older) the older students exhibited higher relative achievement than younger students with differences between groups within each classification on predictability. This study found a significant correlation between the S.A.T. verbal score and academic success for older female students, but found no significant predictors for older male students. Other results found younger freshmen significantly predictable.⁶

¹Pamela J. Roelf, "Teaching and Counseling Older College Students," Findings, Vol. 2, No. 1 (1975), pp. 5-8.

²H. F. Garrett, "A Review and Interpretation of Investigation of Factors Related to Scholastic Success in Colleges of Arts & Sciences and Teacher Colleges," Journal of Experimental Education 18 (1949), pp. 91-138.

³J. A. Fisherman and A. K. Pasanell, "College Admission - Selection Studies," Review of Educational Research, Vol. 30, No. 4 (1960), pp. 298-310.

⁴D. E. Lavin, The Prediction of Academic Performance (New York: Russell Sage Foundation, 1965).

⁵W. B. Schrader, "The Predictive Validity of College Board Admission Tests," in The College Board Admission Testing Program: A Technical Report on Research and Development Activities Relating to the Scholastic Aptitude Test and Achievement Tests, W. H. Angoff ed. (New York: College Entrance Examination Board, 1971).

⁶Robert A. Seltzer, Prediction of Academic Success for Mature Students (Ann Arbor, Michigan: Undergraduate Office of Admissions, February 1976).

Two different research studies found high school grade point average not a good predictor for adult students.^{1,2} A study done at Macomb Community College suggested that high school GPA and ACT scores when correlated to college GPA were not sufficiently high to warrant their use as exclusive criteria for prediction with mature adult applicants. This study also found that while younger and older students had similar high school the older students compiled better overall college GPA's.³

A study using a comparison of regression equations to predict college performance from high school grades and admission tests found sex differences in the prediction of academic success.⁴ Another research project determined females were more predictable in the academic setting than males.⁵

¹J. D. Ryan. "A Comparison of Academic Achievement of Adult and College Age Jr. College Full-Time Day Students" (Ph.D. Dissertation, Wayne State University, 1969).

²J. L. Winslow. "The 1962-1967 College Study of San Diego Adult School Graduates" (M.Ed. Thesis, U.S. International University, 1968, ERIC Research Report: ED 035-809).

³O. L. Ice, "An Analysis of Academic Achievement of Adult Undergraduate Students in Liberal Arts Programs at Macomb Community College during Academic year 1968-69" (Ph.D. Dissertation, Michigan State University, 1971).

³J. Paraskevopoulos and L. F. Robinson, "Comparison of Regression Equations Predicting College Performance from High School Records and Admission Test Scores," College and University (1970), p. 215.

⁴J. Fagger, A. L. Gross, and K. McCarthy, 1974. "The Differential Predictability of the College Performance of Males and Females." Educational and Psychological Measurement, 1974, 34, p. 363-366.

Two research groups found similar results when using ACT scores as predictors of college GPA for mature and younger students. ACT scores were not as highly correlated with college GPA for mature students as they were for younger students.^{1&2}

At the University of Lethbridge, Alberta, a researcher found that while mature age students had some of the lowest results on the College Qualifications Test, they had some of the best results when compared on GPA with young adults students.³

¹G. R. Groehke, "The Relationship of the Entrance Examination Score to Grade Point Average of Junior College Freshmen when Classified by Age, Sex and Curriculum" (Ed.D. Thesis, Arizona State University, 1969).

²W. F. Stephen and J. C. Wheeler, "Facts & Figures," Adult Leadership (December, 1969), p. 171-172.

³S. A. Perkins, "Success of Mature Age Students in University Studies," Alberta, Journal of Educational Research, 17 (2) (June, 1971), pp. 105-112.

CHAPTER III

METHODOLOGY

The methodology is presented in the following sections: The Study Population, The Study Measurements, The Statistical Hypotheses, The Study Procedure, and The Design for Statistical Analysis.

The Study Population

The population of this study consisted of 2369 new freshman students who were enrolled at the University of Oklahoma in the beginning of the 1977-78 fall semester. Criteria for selection included:

1. Freshman who were enrolled in one or more credit hours and were not enrolled in only courses for audit.
2. Freshman who did not have more than six hours of previous college credit.

Of this population 129 students were adult students and students twenty-one years of age or older at the time they enrolled.

The distribution of adult and younger students and the distribution of American College Test scores is given in Table 1.

This study dealt with an entire population, the entering freshman class of the fall semester 1977-78. An exception was one research question involving American College Test scores. Those scores were not available on eight percent of this population.

TABLE 1
DISTRIBUTION OF POPULATION

Variable	Population		ACT Group	
	N	%	N	%
Younger Students	2240	94.6	2097	96.1
Adult Students	129	5.4	85	3.9
Total Students	2369		2182	

The Study Measurements

Data on the study subjects were taken from the University of Oklahoma student master file which contained such information as academic major, American College Test scores and other demographic data by student identification numbers. The Office of Student Affairs Research and the University Computing Services staff identified students who met the selection criteria and set up a magnetic computer tape with this data. Each semester the Computer Services staff updated the information on each student with current enrollment status and current academic grade information for eight semesters.

The following variables were necessary for the research objectives of this study:

Variables	Measures
Sex	Student Master File
Ethnic Origin	Student Master File
Marital Status	Student Master File
ACT Scores	Student Master File
Academic Major	Student Master File
Academic Grade Report	Student Master File
Number of Hours Enrolled Each Semester	Student Master File

The Statistical Hypotheses

The hypotheses tested in this study are presented in the null form. Three hypotheses are associated with Research Objective I, four hypotheses are associated with Research Objective II, two hypotheses are associated with Research Objective III, and five hypotheses are associated with Research Objective IV.

Hypotheses relevant to Research Objective I:

- Ho₁ There are no significant differences in the sex ratios of adult and younger students.
- Ho₂ There are no significant differences in ethnic origins of adult and younger students.
- Ho₃ There are no significant differences in marital status of adult and younger students.

Hypotheses relevant to Research Objective II:

- Ho₄ There are no significant differences in the predictive ability of ACT scores between adult students and younger students.
- Ho₅ There are no significant differences on the composite ACT scores of adult and younger students.
- Ho₆ There are no significant differences on the selection of majors of adult and younger students.
- Ho₇ There are no significant differences in changing majors of adult and younger students.

Hypotheses relevant to Research Objective III:

- Ho₈ There are no significant differences in the academic performance of adult and younger students taking ability into consideration.
- Ho₉ There are no significant differences in the academic performance of adult and younger students not taking ability into account.

Hypotheses relevant to Research Objective IV:

- Ho₁₀ There are no significant differences in full-time versus part-time status in adult and younger students.
- Ho₁₁ There are no significant differences in stopout rates of part-time adult and younger students.
- Ho₁₂ There are no significant differences in stopout rates of full-time adult and younger students.
- Ho₁₃ There are no significant differences in the dropout rates rates of adult and younger students.
- Ho₁₄ There are no significant differences in the graduation rates of adult and younger students.

The Study Procedure

The research in this study was descriptive in nature. The purpose of descriptive research was to describe things the way they are, rather than to investigate a cause and effect relationship.¹ This study targets adult students and describes academic factors and performance in comparison to younger students.

Data were secured through the Office of Student Affairs Research for analysis.

The Design for Statistical Analysis

Analysis of data for Research Questions one through three were to find simple percentages to form descriptive comparisons. These comparisons were on sex ratios, ethnic origins and marital status of adult and younger students. Chi-Square Tests were performed to determine significance.

¹Schuyler, W. Huck and others. Reading Statistics and Research, (New York: Harper and Row, Publishers, 1974), p. 18.

For Research Questions four through seven, those relevant to Research Objective II, different methods of analysis were performed. For Research Question four, a stepwise regression model were run to determine if there is a significant difference between the two groups. For Research Question five, a Chi-Square test were done to see if adult and younger students differ from one another on ACT scores. For Research Question six and seven, Chi-Square Tests were performed.

For Research Questions eight and nine which are relevant to Research Objective III, general linear models were done to determine significant differences between adult and younger students.

In Research Objective IV which has Research Questions ten through fourteen, Chi-Square Tests were performed and presented for comparison.

CHAPTER IV

RESULTS OF STUDY

Introduction

The data of this research study are from 2369 new freshman students fall semester 1977-78 and include academic majors, American College Test scores, demographic characteristics, enrollment status and academic grade information for a four year period. The data were studied and analyzed to examine adult students at the University of Oklahoma by comparison to younger students. Retention, demographics, academic characteristics and performance were examined to target differences between adult and younger students and to determine if these differences were significant.

In order to give the clearest presentation of the findings of the study, this chapter is divided into the following four major sections:

Research Objective I - Demographic Characteristics

Research Objective II - Academic Characteristics

Research Objective III - Academic Performance

Research Objective IV - Retention

The sample of 2369 is a total population of new entering freshman at the University of Oklahoma fall semester 1977-78. The data which had been previously recorded and updated on magnetic tape by the Office of Student Affairs Research and the Merrick Computing Center staff were accessed for the

statistical analyses. Statistical procedures were performed by computer on the data using the Statistical Analysis System.¹

Research Objective I - Demographic Characteristics

Percentages and Chi-Square values were calculated from the data relating to each of the three hypotheses relating to Research Objective I. The Chi-Square Test was applied to each hypothesis. A summary of the results of the statistical analyses for Hypotheses 1 to 3 inculsively are shown in Table 2.

TABLE 2
SUMMARY OF χ^2 TESTS FOR RESEARCH OBJECTIVE I

Ho	Chi-Square	Critical Value		Accepted/Rejected
		Significance Level = .01	Significance Level = .05	
1	1.098	6.638	3.841	cannot reject at either level
2	49.713	15.086	11.070	reject at both levels
3	247.007	6.638	3.841	reject at both levels

Hypothesis No. 1

Hypothesis No. 1 was stated as:

There are no significant differences in the sex ratios of adult and younger students. Percentages of adult and younger students by sex are presented in Table 3.

¹William H. Blair and others, SAS User's Guide, 1979 Edition, (Cary, North Carolina: SAS Institute, Inc., 1979).

TABLE 3
PERCENTAGES BY SEX

Sex	Adult %	Students Number	Younger %	Students Number
Male	48.8	(63)	53.6	(1200)
Female	51.2	(66)	46.4	(1040)

A Chi-Square Test was used for the analysis of the first hypothesis.
The results are shown in Table 4.

TABLE 4
TABLE OF SEX BY AGE

SEX	Adult	AGE Younger	Total	
Male	63 2.66 4.99 48.84	1200 50.65 95.01 53.57	1263 53.31	Frequency Percent Row Pct Col Pct
Female	66 2.79 5.97 51.16	1040 43.90 94.03 46.43	1106 46.69	Frequency Percent Row Pct Col Pct
Total	129 5.45	2240 94.55	2369 100.00	

Statistics

Chi-Square 1.098 df = 1 Prob = 0.2946

The resultant X^2 value was 1.098 too small to be significant. The required values for significance were 6.638 at the .05 level and 3.841 at the .01 level of significance.

Based on the results of the Chi-Square Test, Hypothesis No. 1 as stated in the null form cannot be rejected at either the .05 level or the .01 level of significance. Therefore, it is accepted as being true.

Hypothesis No. 2

Hypothesis No. 2 was stated as:

There are no significant differences in the ethnic origins of adult and younger students. Percentages of adult and younger students by ethnic origin are presented in Table 5.

A Chi-Square Test was used for the analysis of this hypothesis also. The results are shown in Table 6.

The resultant X^2 value was 49.713 indicating a high degree of significance. The required values for significance were 15.086 at the .01 level and 11.070 at the .05 level of significance. The results may not be valid due to the small number in some of the cells.

In order to get a more valid test another Chi-Square Test was performed on the same data only all other ethnic origins besides white were classified together. The results are shown in Table 7.

For Hypothesis 3, the resultant X^2 value was 247.007 indicating a high degree of significance. The required values for significance were 3.841 at the .01 level and 6.638 at the .05 level of significance. This test was valid for those

TABLE 5
PERCENTAGES BY ETHNIC ORIGIN

Ethnic Sex	Adult %	Students Number	Younger %	Students Number
White	81.4	(105)	89.5	(2005)
Black	1.5	(2)	4.2	(94)
Hispanic	3.1	(4)	.5	(11)
Asian or Pacific Islander	0.0	(0)	.7	(15)
American or Alaskan Native	3.1	(4)	2.9	(64)
Other	10.9	(14)	2.3	(51)

TABLE 6
TABLE OF ETHNIC ORIGIN BY AGE

ETHNIC ORIGIN	AGE		Total	
	Adult	Younger		
White	105	2005	2110	Frequency
	4.43	84.63	89.07	Percent
	4.98	95.02		Row Pct
	81.40	89.51		Col Pct
Black	2	94	96	Frequency
	0.08	3.97	4.05	Percent
	2.08	97.92		Row Pct
	1.55	4.20		Col Pct
Hispanic	4	11	15	Frequency
	0.17	0.46	0.63	Percent
	26.67	73.33		Row Pct
	3.10	0.49		Col Pct
Asian or Pacific Islander	0	15	15	Frequency
	0.00	0.63	0.63	Percent
	0.00	100.00		Row Pct
	0.00	0.67		Col Pct
American or Alaskan Native	4	64	68	Frequency
	0.17	2.70	2.87	Percent
	5.88	94.12		Row Pct
	3.10	2.86		Col Pct
Other	14	51	65	Frequency
	0.59	2.15	2.74	Percent
	21.54	78.46		Row Pct
	10.85	2.28		Col Pct

Statistics

Chi-Square = 49.713

df = 5 Prob = 0.0001

Note: Over 20% of the cells have expected counts less than 5.

TABLE 7
TABLE OF WHITE/NON-WHITE BY AGE

ETHNIC ORIGIN	AGE		Total	
	Adult	Younger		
White	105	2005	2110	Frequency
	4.43	84.63	89.07	Percent
	4.98	95.02		Row Pct
	81.40	89.51		Col Pct
All Others	24	235	259	Frequency
	1.01	9.92	10.93	Percent
	9.27	90.73		Row Pct
	18.60	10.49		Col Pct
Total	129	2240	2369	
	5.45	94.55	100.00	

Statistics

Chi-Square = 8.246

df = 1 Prob = 0.0041

who responded. Since such a large number did not respond, 78% of the adults and 39% of the younger students, this may not be valid for the entire population. But, based on the Chi-Square Test of the responses, Hypothesis No. 3 as stated in the null form was rejected. Rewritten in the Alternative Hypothesis form, Hypothesis No. 3 can be stated as being true:

There are significant differences in the marital status of adult and younger students.

Research Objective I was concerned with the demographics of new adult and younger students. Hypotheses 1 through 3 were formulated as being relevant to Research Objective I.

Research Objective II - Academic Characteristics

Research Objective II was concerned with differences in academic characteristics; predictive ability of ACT scores, ACT scores in general, selection of majors and changing of majors. Four hypotheses, No. 4 to No. 7 inclusively, were formulated as being relevant to Research Objective II.

A stepwise multiple regression was performed on data relating to Hypothesis 4, while Chi-Square Tests were run on Hypotheses 5, 6, and 7. Table 8 is a summary of the test on Hypothesis 4.

TABLE 8
SUMMARY OF STEPWISE REGRESSION FOR RESEARCH OBJECTIVE II

Ho	Adult Variable Entered	R ²	Prob F	Younger Variable Entered	R ²	Prob F
4	English ACT	.12364398	.002	English ACT	.15861129	.0001
	Natural Science ACT	.16235423	.0017	Math ACT	.17998008	.0001
				Natural Science ACT	.18231799	.0001
				Social Science ACT	.18370831	.0001
Reject						

A summary of the Chi-Square Tests applied to Hypotheses 5 through 7 inclusively are shown in Table 9.

TABLE 9
SUMMARY OF χ^2 TESTS FOR RESEARCH OBJECTIVE II

Ho	Chi-Square	Critical Value		Accepted/Rejected
		Significance Level = .01	Significance Level = .05	
5	42.246	21.666	16.919	reject at both levels
6	366.621	2.352	1.655	reject at both levels
7	63.975	6.638	3.841	reject at both levels

Hypothesis No. 4

Hypothesis No. 4 was stated as:

There are no significant differences in the predictive ability of ACT scores between adults and younger students.

A Stepwise Regression was used on the data relating to Hypothesis No. 4. This analysis was performed to explore the relationship between the component ACT scores or independent variables and the cumulative grade point average. Insight was needed for determination of significant differences in the predictive ability of ACT scores of adult and younger students. Table 10 gives the results of the Stepwise Regression Procedure for adult students.

Only two ACT component test scores, English ACT score and Natural Science ACT score, were significant in predicting cumulative grade point averages for adult students. The English ACT was the best single predictor with a probability of F at the .0020 level. The English ACT score had a probability of F at the .0004 level when coupled with the Natural Science ACT score at a probability of F at the .0723 level of significance.

TABLE 10
ADULT STUDENT STEPWISE REGRESSION PROCEDURE FOR DEPENDENT VARIABLE CUMMULATIVE GPA

Step 1	English ACT Variable Eng Entered	R Square = 0.12364398		C(P) = 1.47423863		
		df	Sum of Squares	Mean Square	F	Prob F
	Regression	1	114727.59604922	114727.59604922	10.30	0.0020
	Error	73	813159.07061745	11139.16535092		
	Total	74	927886.66666667			
		F Value	STD Error	Type II SS	F	Prob F
	Intercept	59.41602106				
	English ACT	9.55606733	2.97763581	114727.59604922	10.30	0.0020
Step 2	Natural Science Act Variable Nat Entered	P Square = 0.16235423		C(P) = 0.27291833		
		df	Sum of Squares	Mean Square	F	Prob F
	Regression	2	150646.32642063	75323.16321032	6.98	0.0017
	Error	72	777240.34024604	10795.00472564		
	Total	74	927886.66666667	10795.00472564		
		F Value	STD Error	Type II SS	F	Prob F
	Intercept	106.11861139				
	English ACT	11.29133599	3.19865044	149193.73118254	13.82	0.0004
	Natural Science ACT	-4.16235743	2.28186686	35918.73037142	3.33	0.0723

No other variables met the 0.1500 significance level for entry into the model.

Table 11 gives the results of the Stepwise Regression Procedure for younger students.

All four ACT component test scores, the English ACT score, the Math ACT score, the Natural Science ACT, and the Social Sciences ACT score, were significant in predicting cumulative grade point averages for younger students. The English ACT again was the best single predictor with a probability of F at the .0001 level of significance. The English ACT score and the Math ACT score are the two best predictors in combination with both having probabilities of F at the .0001 level of significance. The Natural Science ACT is the third independent variable added to the English ACT score and the Math ACT score. The Natural Science ACT score has a probability of .0160 while the English and Math ACT scores maintain probabilities of F at the .0001 level of significance. The fourth independent variable, the Social Science ACT score, entered in with the other three ACT components. With the four independent variables the English ACT score still entered first with a probability of F at the .0001 level of significance. The second was the Math ACT also with a probability of F at the .001 level of significance. The third was the Natural Science ACT score with a probability of F at the .0025 level of significance. The final entry was the Social Sciences ACT score with a probability of F at the .0630 level of significance.

These two Stepwise Regression Procedures showed that while only two independent variables were good predictors of cumulative grade point averages for adults, four independent variables were good predictors for younger students. Based on the results of the Stepwise Regression Procedures, Hypothesis No. 4 as stated in the null form was rejected. Rewritten in the Alternative Hypothesis form, Hypothesis No. 4 can be stated as being true:

TABLE 11
YOUNGER STUDENTS STEPWISE REGRESSION PROCEDURE FOR DEPENDENT VARIABLE CUMMULATIVE GPA

Step 1	English ACT Variable Eng Entered	R Square = 0.15861129		C(P) = 60.41285598		
		df	Sum of Squares	Mean Square	F	Prob F
	Regression	1	2301948.81973105	2301948.81973105	383.43	0.0001
	Error	2034	12211197.65325521	6003.53866925		
	Total	2035	14513146.47298625			
		F Value	STD Error	Type II SS	F	Prob F
	Intercept	101.86647284				
	English ACT	7.57267650	0.38672765	2301948.81973104	383.43	0.0001
Step 2	Math Act Variable Math Entered	P Square = 0.17998008		C(P) = 9.27174565		
		df	Sum of Squares	Mean Square	F	Prob F
	Regression	2	2612077.19615215	1306038.59807608	223.10	0.0001
	Error	2033	11901069.27683410	5853.94455329		
	Total	2035	14513146.47298625			
		F Value	STD Error	Type II SS	F	Prob F
	Intercept	92.30279331				
	English ACT	-5.86822032	0.44796125	1004570.76318506	171.61	0.0001
	Math ACT	2.11199128	0.29016543	310128.37642111	52.98	0.0001

Step 3	Natural Science ACT		R Square = 0.18231799		C(P) = 5.45767889		
	Variable Nat Entered		df	Sum of Squares	Mean Square	F	Prob F
	Regression Error	3	2646007.74584360	882002.58194787	151.02	0.0001	
		2032	11867138.72714266	5840.12732635			
		F Value	STD Error	Type II SS	F	Prob F	
	Intercept	98.87427346					
	English ACT	6.27854926	0.47872273	1004552.92399298	172.01	0.0001	
	Math ACT	2.46939399	0.32555075	336020.43335561	57.54	0.0001	
	Natural Science ACT	-0.94160810	0.39064826	33930.54969144	5.81	0.0160	
	Step 4	Social Science ACT		R Square = 0.18370831		C(P) = 4.00017112	
Variable Soc Entered		df	Sum of Squares	Mean Square	F	Prob F	
Regression Error		4	2666185.55664797	666546.38916199	114.27	0.0001	
		2031	11846960.91633828	5833.06790563			
Total		2035	14513146.47298625				
		F Value	STD Error	Type II SS	F	Prob F	
Intercept		101.15023658					
English ACT		5.93155854	0.51352196	778245.52728346	133.42	0.0001	
Math ACT		2.44818990	0.32555362	329869.52269765	56.55	0.0001	
Social Science ACT		0.75529803	0.40609706	20177.81080438	3.46	0.0630	
Natural Science ACT	-1.38213666	0.45664282	53437.45168615	9.16	0.0025		

No other variables met the 0.1500 significance level for entry into the model.

There are significant differences in the predictive ability of ACT scores between adult and younger students.

Hypothesis No. 5

Hypothesis No. 5 was stated as:

There are no significant differences on the composite ACT scores of adult and younger students. A Chi-Square Test was used for the analysis of Hypothesis No. 5. The results are shown in Table 12.

TABLE 12
TABLE OF ACT COMPOSITE SCORES BY AGE

ACT COMPOSITE SCORES	AGE		Total	
	Adult	Younger		
No Scores	44	143	0	Frequency
	0	0	0	Percent
	0	0		Row Pct
	0	0		Col Pct
7 - 12	8	110	118	Frequency
	0.37	5.04	5.41	Percent
	6.78	93.22		Row Pct
	9.41	5.25		Col Pct
13	9	57	66	Frequency
	0.41	2.61	3.02	Percent
	13.64	86.36		Row Pct
	10.59	2.72		Col Pct
14 - 16	10	218	228	Frequency
	0.46	9.99	10.45	Percent
	4.39	95.61		Row Pct
	11.76	10.40		Col Pct
17	7	81	88	Frequency
	0.32	3.71	4.03	Percent
	7.95	92.05		Row Pct
	8.24	3.86		Col Pct

TABLE 12 (Continued)
TABLE OF ACT COMPOSITE SCORES BY AGE

ACT COMPOSITE SCORES	AGE			
	Adult	Younger	Total	
18	8 0.37 5.88 9.41	128 5.87 94.12 6.10	136 6.23	Frequency Percent Row Pct Col Pct
19	9 0.41 5.45 10.59	156 7.15 94.55 7.44	165 7.56	Frequency Percent Row Pct Col Pct
20	10 0.46 6.17 11.76	152 6.97 93.83 7.25	162 7.42	Frequency Percent Row Pct Col Pct
21 - 22	9 0.41 3.09 10.59	282 12.92 96.91 13.45	291 13.34	Frequency Percent Row Pct Col Pct
23 - 24	7 0.32 2.44 8.24	280 12.83 97.56 13.35	287 13.15	Frequency Percent Row Pct Col Pct
25 - 35	8 .37 1.25 9.41	633 29.01 98.75 30.19	641 29.38	Frequency Percent Row Pct Col Pct
Total	85 3.90	2097 96.10	2182 100.00	

Statistics

Chi-Square

42.246

df = 9 Prob = 0.0001

The resultant X^2 value was 42.246 indicating a high degree of significance. The required values for significance were 21.666 at the .01 level of significance and 16.919 at the .05 level of significance. So, based on the results of the Chi-Square Test, Hypothesis No. 5 as stated in the null form can be rejected. Rewritten in the Alternative Hypothesis form, Hypothesis No. 5 can be stated as being true:

There is a significant difference between the composite ACT scores of adults and younger students.

Hypothesis No. 6

There are no significant differences on the selection of majors of adult and younger students. A Chi-Square Test was used for the analysis of this hypothesis also. Table 13 gives the results and breakdowns within the Chi-Square Test. This test may not be valid due to the fact that over 20% of the cells sizes have less than 5 responses. So for comparison, the percentages within each major and by age group were noted.

The resultant X^2 value was 366.621 indicating significance. The required values for significance were 2.352 at the .01 level and 1.655 at the .05 level of significance. Again, the results may not be balanced due to the small number in some of the cells. There was not another way using a nonparametric statistic due to an unbalanced population to test for significance. The cells could have been conducted, but would not have accurately reflected students major choices.

Based on the results of either the Chi-Square Test or the percentages, Hypothesis No. 6 as stated in the null form was rejected. Rewritten in the Alternative Hypothesis form, Hypothesis No. 6 can be stated as being true:

There are significant differences on the selection of majors of adult and younger students.

TABLE 13
TABLE OF MAJOR BY AGE

MAJOR	AGE		Total	
	Adult	Younger		
Unknown	1	10	11	Frequency
	0.04	0.42	0.46	Percent
	9.09	90.91		Row Pct
	0.78	0.45		Col Pct
Environmental Design (B.S.)	0	3	3	Frequency
	0.00	0.13	0.13	Percent
	0.00	100.00		Row Pct
	0.00	0.13		Col Pct
Environmental Design (Undecided Option)	1	4	5	Frequency
	0.04	0.17	0.21	Percent
	20.00	80.00		Row Pct
	0.78	0.18		Col Pct
Architecture (B. & Arch.)	1	18	19	Frequency
	0.46	9.99	10.45	Percent
	4.39	95.61		Row Pct
	11.76	10.40		Col Pct
Architecture (Undecided Option)	0	1	1	Frequency
	0.00	0.04	0.04	Percent
	0.00	100.00		Row Pct
				Col Pct
Architecture (Pre-Arch. - B.S. in Env. Design)	1	10	11	Frequency
	0.04	0.42	0.46	Percent
	9.09	90.91		Row Pct
	0.78	0.45		Col Pct
Environmental Design (Con- struction Sci- ence - B.S. in Env. Design)	0	2	2	Frequency
	0.00	0.08	0.08	Percent
	0.00	100.00		Row Pct
	0.00	0.09		Col Pct

TABLE 13 (Continued)
TABLE OF MAJOR BY AGE

MAJOR	AGE		Total	
	Adult	Younger		
Asian Studies (B.A.)	0	2	2	Frequency
	0.00	0.08	0.08	Percent
	0.00	100.00		Row Pct
	0.00	0.09		Col Pct
Botany (B.S.)	1	0	1	Frequency
	0.04	0.00	0.04	Percent
	100.00	0.00		Row Pct
	0.78	0.00		Col Pct
Zoology (B.S.)	0	49	49	Frequency
	0.00	2.07	2.07	Percent
	0.00	100.00		Row Pct
	0.00	2.19		Col Pct
Microbiology (B.S. in Micro)	0	20	20	Frequency
	0.00	0.84	0.84	Percent
	0.00	100.00		Row Pct
	0.00	0.89		Col Pct
Business - No Major, (Undergrad- uate, Non-degree)	5	65	70	Frequency
	0.21	2.74	2.95	Percent
	7.14	92.86		Row Pct
	3.88	2.90		Col Pct
Accounting (BBA)	1	54	55	Frequency
	0.04	2.28	2.32	Percent
	1.82	98.18		Row Pct
	0.78	2.41		Col Pct
Accounting (BAC)	2	21	23	Frequency
	0.08	0.89	0.97	Percent
	8.70	91.30		Row Pct
	1.55	0.94		Col Pct

TABLE 13 (Continued)

TABLE OF MAJOR BY AGE

MAJOR	AGE		Total	
	Adult	Younger		
Accounting (Undecided Option)	3 0.13 5.08 2.33	56 2.36 94.92 2.50	59 2.49	Frequency Percent Row Pct Col Pct
Business Statistics (BBA)	0 0.00 0.00 0.00	8 0.34 100.00 0.36	8 0.34	Frequency Percent Row Pct Col Pct
Finance (BBA)	0 0.00 0.00 0.00	23 0.97 100.00 1.03	23 0.97	Frequency Percent Row Pct Col Pct
Management (BBA)	5 0.21 5.05 3.88	94 3.97 94.95 4.21	99 4.18	Frequency Percent Row Pct Col Pct
Petroleum Land Management (BBA)	0 0.00 0.00 0.00	29 1.22 100.00 1.29	29 1.22	Frequency Percent Row Pct Col Pct
Marketing (BBA)	2 0.08 9.09 1.55	20 0.84 90.91 0.89	22 0.93	Frequency Percent Row Pct Col Pct
Economics - Busi- ness (BBA)	0 0.00 0.00 0.00	18 0.76 100.00 0.80	18 0.76	Frequency Percent Row Pct Col Pct

TABLE 13 (Continued)
TABLE OF MAJOR BY AGE

MAJOR	AGE		Total	
	Adult	Younger		
Communication (BA)	0	10	10	Frequency
	0.00	0.42	0.42	Percent
	0.00	100.00		Row Pct
	0.00	0.45		Col Pct
Journalism - News	0	39	39	Frequency
Communication	0.00	1.65	1.65	Percent
(BA in Journ.)	0.00	100.00		Row Pct
	0.00	1.74		Col Pct
Journalism - Prof.	0	11	11	Frequency
Writing (BA in	0.00	0.46	0.46	Percent
Journalism)	0.00	100.00		Row Pct
	0.00	0.49		Col Pct
Journalism -	0	11	11	Frequency
Public Relations	0.00	0.46	0.46	Percent
(BA in Journ.)	0.00	100.00		Row Pct
	0.00	0.49		Col Pct
Speech, Radio &	0	1	1	Frequency
TV (BA)	0.00	0.04	0.04	Percent
	0.00	100.00		Row Pct
	0.00	0.04		Col Pct
Journalism -	0	29	29	Frequency
Radio & TV	0.00	1.22	1.22	Percent
(BA in Journ.)	0.00	100.00		Row Pct
	0.00	1.29		Col Pct
Journalism -	1	11	12	Frequency
General Broad-	0.04	0.46	0.51	Percent
casting (BA in	8.33	91.67		Row Pct
Journ.)	0.78	0.49		Col Pct

TABLE 13 (Continued)
TABLE OF MAJOR BY AGE

MAJOR	Adult	AGE Younger	Total	
Journalism	0	8	8	Frequency
Advertising	0.00	0.34	0.34	Percent
(BA in Journ.)	0.00	100.00		Row Pct
	0.00	0.36		Col Pct
Journalism	1	3	4	Frequency
Motion Picture	0.04	0.13	0.17	Percent
(BA in Journ.)	25.00	75.00		Row Pct
	0.78	0.13		Col Pct
Speech & Hearing	0	1	1	Frequency
(BA)	0.00	0.04	0.04	Percent
	0.00	100.00		Row Pct
	0.00	0.04		Col Pct
Education No	0	10	10	Frequency
Major,	0.00	0.42	0.42	Percent
(Non-Degree)	0.00	100.00		Row Pct
	0.00	0.45		Col Pct
Elementary	6	28	34	Frequency
Education	0.25	1.18	1.44	Percent
(BS in Educ.)	17.65	82.35		Row Pct
	4.65	1.25		Col Pct
Special Educ-	1	7	8	Frequency
ation, MH & LD	0.04	0.30	0.34	Percent
(BS in Educ.)	12.50	87.50		Row Pct
	0.78	0.31		Col Pct
Special Educ-	0	1	1	Frequency
ation, MH	0.00	0.04	0.04	Percent
(BS in Educ.)	0.00	100.00		Row Pct
	0.00	0.04		Col Pct

TABLE 13 (Continued)
TABLE OF MAJOR BY AGE

MAJOR	AGE		Total	
	Adult	Younger		
Special Educa- tion, LD (BS in Educ.)	0 0.00 0.00 0.00	12 0.51 100.00 0.54	12 0.51	Frequency Percent Row Pct Col Pct
Early Childhood Education (BS in Educ.)	1 0.00 11.11 0.78	8 0.34 88.89 0.36	9 0.38	Frequency Percent Row Pct Col Pct
Art Education (BS in Educ.)	0 0.00 0.00 0.00	1 0.04 100.00 0.04	1 0.04	Frequency Percent Row Pct Col Pct
Math Education (BS in Educ.)	0 0.00 0.00 0.00	1 0.04 100.00 0.04	1 0.04	Frequency Percent Row Pct Col Pct
Health & Physical Education (BS in Educ.)	0 0.00 0.00 0.00	10 0.42 100.00 0.45	10 0.42	Frequency Percent Row Pct Col Pct
Elem. & Sec. P.E. Education (Pre-professional)	0 0.00 0.00 0.00	9 0.38 100.00 0.40	9 0.38	Frequency Percent Row Pct Col Pct
Business Education (BS in Bus. Ed.)	0 0.00 0.00 0.00	9 0.38 100.00 0.40	9 0.38	Frequency Percent Row Pct Col Pct

TABLE 13 (Continued)
TABLE OF MAJOR BY AGE

MAJOR	AGE		Total	
	Adult	Younger		
Soc. Stu - Gen. (BS in Educ.)	0 0.00 0.00 0.00	3 0.13 100.00 0.13	3 0.13	Frequency Percent Row Pct Col Pct
Lang. Arts Education (BS in Educ.)	0 0.00 0.00 0.00	5 0.21 100.00 0.22	5 0.21	Frequency Percent Row Pct Col Pct
Mus. Educ. - Instrumental (BS in Educ.)	0 0.00 0.00 0.00	4 0.17 100.00 0.18	4 0.17	Frequency Percent Row Pct Col Pct
Mus. Educ. - Vocal (BS in Educ.)	0 0.00 0.00 0.00	1 0.04 100.00 0.04	1 0.04	Frequency Percent Row Pct Col Pct
Home Econ. Ed- Vocational (BS in Educ.)	0 0.00 0.00 0.00	1 0.04 100.00 0.04	1 0.04	Frequency Percent Row Pct Col Pct
Journalism Education (BS in Educ.)	0 0.00 0.00 0.00	2 0.08 100.00 0.09	2 0.08	Frequency Percent Row Pct Col Pct
Journalism Education (BA in Journ.)	0 0.00 0.00 0.00	1 0.04 100.00 0.04	1 0.04	Frequency Percent Row Pct Col Pct

TABLE 13 (Continued)
TABLE OF MAJOR BY AGE

MAJOR	AGE		Total	
	Adult	Younger		
BKG & Cler. Prac. (BS in Bus. Ed.)	0 0.00 0.00 0.00	1 0.04 100.00 0.04	1 0.04	Frequency Percent Row Pct Col Pct
Early Childhood & Elementary (BS in Educ.)	0 0.00 0.00 0.00	2 0.08 100.00 0.09	2 0.08	Frequency Percent Row Pct Col Pct
Special Educ. (BS in Educ.)	0 0.00 0.00 0.00	2 0.08 100.00 0.09	2 0.08	Frequency Percent Row Pct Col Pct
Engr. (Undecided)	0 0.00 0.00 0.00	2 0.08 100.00 0.09	2 0.08	Frequency Percent Row Pct Col Pct
Engr. (No Major)	0 0.00 0.00 0.00	11 0.46 100.00 0.49	11 0.46	Frequency Percent Row Pct Col Pct
Engr. Ind. Plan (BS in Engr.)	0 0.00 0.00 0.00	13 0.55 100.00 0.58	13 0.55	Frequency Percent Row Pct Col Pct
Engr. Pre-Med (BS in Engr.)	0 0.00 0.00 0.00	3 0.13 100.00 0.13	3 0.13	Frequency Percent Row Pct Col Pct

TABLE 13 (Continued)
TABLE OF MAJOR BY AGE

MAJOR	AGE		Total	
	Adult	Younger		
Engr. Comp. Sciences (BS in Engr.)	0 0.00 0.00 0.00	20 0.84 100.00 0.89	20 0.84	Frequency Percent Row Pct Col Pct
Engr. Mech. (BS in Engr.)	1 0.04 33.33 0.78	2 0.08 66.67 0.09	3 0.13	Frequency Percent Row Pct Col Pct
Engr. Pre-Arch. (BS in Engr.)	0 0.00 0.00 0.00	13 0.55 100.00 0.58	13 0.55	Frequency Percent Row Pct Col Pct
Aerospace Engr. (BS in Aero E)	2 0.08 8.33 1.55	22 0.93 91.67 0.98	24 1.01	Frequency Percent Row Pct Col Pct
Chem. Engr. (BS in Chem. E)	0 0.00 0.00 0.00	39 1.65 100.00 1.74	39 1.65	Frequency Percent Row Pct Col Pct
Petro. Engr. (BS in P.E.)	1 0.04 3.23 0.78	30 1.27 96.77 1.34	31 1.31	Frequency Percent Row Pct Col Pct
Natural Gas Eng. (BS in Nat. Gas E)	1 0.04 100.00 0.78	0 0.00 0.00 0.00	1 0.04	Frequency Percent Row Pct Col Pct

TABLE 13 (Continued)
TABLE OF MAJOR BY AGE

MAJOR	AGE		Total	
	Adult	Younger		
Civil Engr. (BS in CE)	1 0.04 8.33 0.78	11 0.46 91.67 0.49	12 0.51	Frequency Percent Row Pct Col Pct
Electrical Engr. (BS in EE)	9 0.38 16.98 6.98	44 1.86 83.02 1.96	53 2.24	Frequency Percent Row Pct Col Pct
Mech. Engr. (BS in ME)	0 0.00 0.00 0.00	24 1.01 100.00 1.07	24 1.01	Frequency Percent Row Pct Col Pct
Geological Engr. (BS in Geol. E)	0 0.00 0.00 0.00	10 0.42 100.00 0.45	10 0.42	Frequency Percent Row Pct Col Pct
Industrial Engr. (BS in IE)	0 0.00 0.00 0.00	9 0.38 100.00 0.40	9 0.38	Frequency Percent Row Pct Col Pct
Metal. Engr. (BS in Met E)	1 0.04 100.00 0.78	0 0.00 0.00 0.00	1 0.04	Frequency Percent Row Pct Col Pct
Engr. Physics (BS in Engr. Phys.)	0 0.00 0.00 0.00	6 0.25 100.00 0.27	6 0.25	Frequency Percent Row Pct Col Pct

TABLE 13 (Continued)
TABLE OF MAJOR BY AGE

MAJOR	AGE		Total	
	Adult	Younger		
Nuclear Engr. (BS in Nuc E)	0 0.00 0.00 0.00	12 0.51 100.00 0.54	12 0.51	Frequency Percent Row Pct Col Pct
Environmental Science (BS in Env. Sci.)	0 0.00 0.00	3 0.13 100.00	3 0.13 0.13	Frequency Percent Row Pct
Art - Gen. Fine Arts (BFA)	0 0.00 0.00 0.00	9 0.38 100.00 0.40	9 0.38	Frequency Percent Row Pct Col Pct
Art - Advert.: 2 Dim. Des. (BFA in Art)	0 0.00 0.00 0.00	9 0.38 100.00 0.40	9 0.38	Frequency Percent Row Pct Col Pct
Art- Film Making/ Video (BFA in Art)	0 0.00 0.00 0.00	2 0.08 100.00 0.09	2 0.08	Frequency Percent Row Pct Col Pct
Art-Painting (BFA in Art)	1 0.04 100.00 0.78	0 0.00 0.00 0.00	1 0.04	Frequency Percent Row Pct Col Pct
Art-Art Educ. (BFA in Art)	0 0.00 0.00 0.00	2 0.08 100.00 0.09	2 0.08	Frequency Percent Row Pct Col Pct

TABLE 13 (Continued)
TABLE OF MAJOR BY AGE

MAJOR	AGE		Total	
	Adult	Younger		
Music - Gen.	1	4	5	Frequency
Fine Arts	0.04	0.17	0.21	Percent
(BFA)	20.00	80.00		Row Pct
	0.78	0.18		Col Pct
Music Comp.	1	2	3	Frequency
(B Music)	0.04	0.08	0.13	Percent
	33.33	66.67		Row Pct
	0.78	0.09		Col Pct
Drama - Gen.	0	7	7	Frequency
Fine Arts	0.00	0.30	0.30	Percent
(BFA)	0.00	100.00		Row Pct
	0.00	0.31		Col Pct
Drama - Acting	0	13	13	Frequency
(BFA in Drama)	0.00	0.55	0.55	Percent
	0.00	100.00		Row Pct
	0.00	0.58		Col Pct
Drama - Design & Tech. Prod.	0	1	1	Frequency
(BFA in Drama)	0.00	0.04	0.04	Percent
	0.00	100.00		Row Pct
	0.00	0.04		Col Pct
Drama - Speech Educ.	1	0	1	Frequency
(BFA in Drama)	0.04	0.00	0.04	Percent
	100.00	0.00		Row Pct
	0.78	0.00		Col Pct
Dance - Ballet	0	10	10	Frequency
(BFA in Dance)	0.00	0.42	0.42	Percent
	0.00	100.00		Row Pct
	0.00	0.45		Col Pct

TABLE 13 (Continued)

TABLE OF MAJOR BY AGE

MAJOR	AGE		Total	
	Adult	Younger		
Dance- Ballet Ped. (BFA in Dance)	1 0.04 20.00 0.78	4 0.17 80.00 0.18	5 0.21	Frequency Percent Row Pct Col Pct
Dance - Modern Performance (BFA in Dance)	0 0.00 0.00 0.00	0 0.04 100.00 0.04	1 0.04	Frequency Percent Row Pct Col Pct
Dance - Modern Pedagogy (BFA in Dance)	0 0.00 0.00 0.00	1 0.04 100.00 0.04	1 0.04	Frequency Percent Row Pct Col Pct
Music - Wind, Peus., & String (B Music)	0 0.00 0.00 0.00	4 0.17 100.00 0.18	4 0.17	Frequency Percent Row Pct Col Pct
Music - Piano (B Music)	0 0.00 0.00 0.00	8 0.34 100.00 0.36	8 0.34	Frequency Percent Row Pct Col Pct
Music - Voice (B Music)	0 0.00 0.00 0.00	3 0.13 100.00 0.13	3 0.13	Frequency Percent Row Pct Col Pct
Music Theory (B Music)	0 0.00 0.00 0.00	1 0.04 100.00 0.04	1 0.04	Frequency Percent Row Pct Col Pct

TABLE 13 (Continued)
TABLE OF MAJOR BY AGE

MAJOR	AGE		Total	
	Adult	Younger		
Music Educ. Instrumental (B Music Educ.)	0 0.00 0.00 0.00	20 0.84 100.00 0.89	20 0.84	Frequency Percent Row Pct Col Pct
Music Educ. Vocal (B Music Educ.)	0 0.00 0.00 0.00	2 0.08 100.00 0.09	2 0.08	Frequency Percent Row Pct Col Pct
Music Educ. Combined (B Music Educ.)	0 0.00 0.00 0.00	5 0.21 100.00 0.22	5 0.21	Frequency Percent Row Pct Col Pct
French (BA)	0 0.00 0.00 0.00	6 0.25 100.00 0.27	6 0.25	Frequency Percent Row Pct Col Pct
German (BA)	0 0.00 0.00 0.00	1 0.04 100.00 0.04	1 0.04	Frequency Percent Row Pct Col Pct
Spanish (BA)	1 0.04 25.00 0.78	3 0.13 75.00 0.13	4 0.17	Frequency Percent Row Pct Col Pct
Nursing Undergraduate (BS in Nursing)	0 0.00 0.00 0.00	1 0.04 100.00 0.04	1 0.04	Frequency Percent Row Pct Col Pct

TABLE 13 (Continued)
TABLE OF MAJOR BY AGE

MAJOR	AGE		Total	
	Adult	Younger		
Medical Technology (BS in Med. Tech.)	2 0.08 9.09 1.55	20 0.84 90.91 0.89	22 0.93	Frequency Percent Row Pct Col Pct
Mechanical Technology (HSC - Non-degree)	2 0.08 100.00 1.55	0 0.00 0.00 0.00	2 0.08	Frequency Percent Row Pct Col Pct
Lab Tech (BS in Lab Tech.)	0 0.00 0.00 0.00	7 0.30 100.00 0.31	7 0.30	Frequency Percent Row Pct Col Pct
Home Econ. General (BS in Home Ec.)	0 0.00 0.00 0.00	4 0.17 100.00 0.18	4 0.17	Frequency Percent Row Pct Col Pct
Interior Design (BA)	0 0.00 0.00 0.00	12 0.51 100.00 0.54	12 0.51	Frequency Percent Row Pct Col Pct
Fact Fashion Arts (BA)	0 0.00 0.00 0.00	3 0.13 100.00 0.13	3 0.13	Frequency Percent Row Pct Col Pct
Fact Cloth & Text. (BS in Home Ec.)	1 0.04 33.33 0.78	2 0.08 66.67 0.09	3 0.13	Frequency Percent Row Pct Col Pct

TABLE 13 (Continued)
TABLE OF MAJOR BY AGE

MAJOR	AGE		Total	
	Adult	Younger		
Fact	0	12	12	Frequency
Merchandising	0.00	0.51	0.51	Percent
(BS in Home Ec.)	0.00	100.00		Row Pct
	0.00	0.54		Col Pct
Fact (Undecided Option)	0	1	1	Frequency
	0.00	0.04	0.04	Percent
	0.00	100.00		Row Pct
	0.00	0.04		Col Pct
Home Econ.	0	1	1	Frequency
Nutrition, Diet.	0.00	0.04	0.04	Percent
(BS)	0.00	100.00		Row Pct
	0.00	0.04		Col Pct
Home Econ.	0	2	2	Frequency
Voc. & Gen. Ed.	0.00	0.08	0.08	Percent
(BS in Home Ec.)	0.00	100.00		Row Pct
	0.00	0.09		Col Pct
English	1	5	6	Frequency
(BA)	0.04	0.21	0.25	Percent
	16.67	83.33		Row Pct
	0.78	0.22		Col Pct
Philosophy	0	3	3	Frequency
(BA)	0.00	0.13	0.13	Percent
	0.00	100.00		Row Pct
	0.00	0.13		Col Pct
Letters	0	6	6	Frequency
(BA in Letters)	0.00	0.25	0.25	Percent
	0.00	100.00		Row Pct
	0.00	0.27		Col Pct

TABLE 13 (Continued)
TABLE OF MAJOR BY AGE

MAJOR	AGE		Total	
	Adult	Younger		
Math (BA)	0	2	2	Frequency
	0.00	0.08	0.08	Percent
	0.00	100.00		Row Pct
	0.00	0.09		Col Pct
Math (BS)	0	2	2	Frequency
	0.00	0.08	0.08	Percent
	0.00	100.00		Row Pct
	0.00	0.09		Col Pct
Math (BS in Math)	0	2	2	Frequency
	0.00	0.08	0.08	Percent
	0.00	100.00		Row Pct
	0.00	0.09		Col Pct
Math (Undecided option)	0	9	9	Frequency
	0.00	0.38	0.38	Percent
	0.00	100.00		Row Pct
	0.00	0.40		Col Pct
Physics (BA)	0	1	1	Frequency
	0.00	0.04	0.04	Percent
	0.00	100.00		Row Pct
	0.00	0.04		Col Pct
Physics (BS)	0	4	4	Frequency
	0.00	0.17	0.17	Percent
	0.00	100.00		Row Pct
	0.00	0.18		Col Pct
Physics (Undecided option)	0	4	4	Frequency
	0.00	0.17	0.17	Percent
	0.00	100.00		Row Pct
	0.00	0.18		Col Pct

TABLE 13 (Continued)
TABLE OF MAJOR BY AGE

MAJOR	AGE		Total	
	Adult	Younger		
Chemistry (BS)	1 0.04 20.00 0.78	4 0.17 80.00 0.18	5 0.21	Frequency Percent Row Pct Col Pct
Chemistry (BS in Chem.)	1 0.04 10.00 0.78	9 0.38 90.00 0.40	10 0.42	Frequency Percent Row Pct Col Pct
Chemistry (Undecided option)	0 0.00 0.00 0.00	15 0.63 100.00 0.67	15 0.63	Frequency Percent Row Pct Col Pct
Astronomy (BS)	0 0.00 0.00 0.00	1 0.04 100.00 0.04	1 0.04	Frequency Percent Row Pct Col Pct
Astrophysics (BS in Astro)	0 0.00 0.00 0.00	3 0.13 100.00 0.13	3 0.13	Frequency Percent Row Pct Col Pct
Meteorology (BS in Met.)	1 0.04 14.29 0.78	6 0.25 85.71 0.72	7 0.30	Frequency Percent Row Pct Col Pct
Meteorology (BA in Met.)	0 0.00 0.00 0.00	16 0.68 100.00 0.71	16 0.68	Frequency Percent Row Pct Col Pct

TABLE 13 (Continued)
TABLE OF MAJOR BY AGE

MAJOR	AGE		Total	
	Adult	Younger		
Geology (BS)	1 0.04 16.67 0.78	5 0.21 83.33 0.22	6 0.25	Frequency Percent Row Pct Col Pct
Geology (BS in Geol.)	0 0.00 0.00 0.00	5 0.21 100.00 0.22	5 0.21	Frequency Percent Row Pct Col Pct
Geology (Undecided option)	0 0.00 0.00 0.00	5 0.21 100.00 0.22	5 0.21	Frequency Percent Row Pct Col Pct
Geophysics (Undecided option)	0 0.00 0.00 0.00	1 0.04 100.00 0.04	1 0.04	Frequency Percent Row Pct Col Pct
Psychology (BA)	2 0.08 6.61 1.55	31 1.31 93.94 1.38	33 1.39	Frequency Percent Row Pct Col Pct
Recreation (BA)	0 0.00 0.00 0.00	5 0.21 100.00 0.22	5 0.21	Frequency Percent Row Pct Col Pct
Social Work (BA)	0 0.00 0.00 0.00	14 0.59 100.00 0.63	14 0.59	Frequency Percent Row Pct Col Pct

TABLE 13 (Continued)

TABLE OF MAJOR BY AGE

MAJOR	AGE		Total	
	Adult	Younger		
Law Enforcement Admin. (BA)	4 0.17 19.05 3.10	17 0.72 80.95 0.76	21 0.89	Frequency Percent Row Pct Col Pct
Anthropology (BA)	2 0.08 28.57 1.55	5 0.21 71.43 0.22	7 0.31	Frequency Percent Row Pct Col Pct
History (BA)	0 0.00 0.00 0.00	14 0.59 100.00 0.63	14 0.59	Frequency Percent Row Pct Col Pct
Geography (BA)	0 0.00 0.00 0.00	1 0.04 100.00 0.04	1 0.04	Frequency Percent Row Pct Col Pct
Pol. Sci. (BA)	1 0.04 2.00 0.78	49 2.07 98.00 2.19	50 2.11	Frequency Percent Row Pct Col Pct
Sociology (BA)	1 0.04 25.00 0.78	3 0.13 75.00 0.13	4 0.17	Frequency Percent Row Pct Col Pct
Urban Studies (BA)	0 0.00 0.00 0.00	1 0.04 100.00 0.04	1 0.04	Frequency Percent Row Pct Col Pct

TABLE 13 (Continued)
TABLE OF MAJOR BY AGE

MAJOR	AGE		Total	
	Adult	Younger		
Pub. Affairs & Admin. (BA)	0 0.00 0.00 0.00	1 0.04 100.00 0.04	1 0.04	Frequency Percent Row Pet Col Pet
Early Entry	0 0.00 0.00 0.00	12 0.51 100.00 0.54	12 0.51	Frequency Percent Row Pet Col Pet
Audit	4 0.17 80.00 3.10	1 0.04 20.00 0.04	5 0.21	Frequency Percent Row Pet Col Pet
University College (No major)	41 1.73 5.11 31.78	761 32.12 94.89 33.97	802 33.85	Frequency Percent Row Pet Col Pet
Spec. Student	9 0.38 47.37 6.98	10 0.42 52.63 0.45	19 0.80	Frequency Percent Row Pet Col Pet
Pre-Arch. (A&S—BA)	0 0.00 0.00 0.00	1 0.04 100.00 0.04	1 0.04	Frequency Percent Row Pet Col Pet
Total	129 5.45	2240 94.55	2369 100.00	

Statistics

Chi-Square = 366.621

df = 145 Prob = 0.0001

Hypothesis No. 7

Hypothesis No. 7 was stated as:

There are no significant differences in changing majors of adults and younger students. A Chi-Square Test was used for the statistical analysis of this hypothesis. The results are shown in Table 14. The data used for the test were the students choice of major their first semester at the University of Oklahoma compared to their choice their last semester at the University of Oklahoma.

TABLE 14
TABLE OF CHANGING MAJOR BY AGE

MAJOR	AGE		Total	
	Adult	Younger		
Did Not	101	948	1049	Frequency
Change	4.26	40.02	44.28	Percent
Major	9.63	90.37		Row Pct
	78.29	42.37		Col Pct
Changed	28	1292	1320	Frequency
Major	1.18	54.54	55.72	Percent
	2.12	97.88		Row Pct
	21.71	57.68		Col Pct
	129	2240	2369	
	5.45	94.55	100.00	

Statistics

Chi-Square = 63.975

df = 1 Prob = 0.0001

The resultant X^2 value was 63.975 indicating a very high degree of significance. The required values for significance were 6.638 at the .01 level and 3.841 at the .05 level of significance. Only 22 percent of the adult students changed their majors while 58 percent of the younger students changed their majors. Based on the Chi-Square Test on the data relating to majors, Hypothesis No. 7 as stated in the null form was rejected. Rewritten in the Alternative Hypothesis form, Hypothesis No. 7 can be stated as being true:

There are significant differences in changing majors of adults and younger students.

Research Objective II was concerned with the academic characteristics of adult and younger students. Hypotheses 4 through 7 were formulated as being relevant to Research Objective II. Significant differences were found between adult and younger students for each hypotheses including the predictive ability of ACT scores, the composite ACT scores, the selection of majors and the pattern of changing majors.

Research Objective III - Academic Performance

The General Linear Model procedure was calculated from the data relating to each of the two hypotheses relating to Research Objective III. A summary of the results of the statistical analyses for Hypotheses 8 and 9 are shown in Table 15.

Hypothesis No. 8

Hypothesis No. 8 was stated as:

There are no significant differences in the academic performance of adult and younger students taking ability into consideration.

TABLE 15
SUMMARY OF GENERAL LINEAR MODELS PROCEDURE FOR
RESEARCH OBJECTIVE III

Ho	Dependent Variable	Independent Variable(s)	PR F	Accepted/Rejected
8	Cum. GPA	Age Comp. ACT	0.0001	Rejected
9	Cum. GPA	Age	0.0042	Rejected

The General Linear Model procedure was employed for the analysis of Hypothesis No. 8 because of the unbalanced data set. The results are shown in Table 16.

The resultant probability greater than F was calculated at the 0.0042 level of significance which is significant. So based on the results of the General Linear Models Procedure, Hypothesis No. 8 as stated in the null form was rejected. There was a significant difference between adult and younger students' cumulative grade point averages taking ability, which was based on composite ACT scores, into account. Rewritten in the Alternative Hypothesis form, Hypothesis No. 8 can be stated as being true:

There are significant differences in the academic performance of adult and younger students taking ability into consideration.

Hypothesis No. 9

Hypothesis No. 9 was stated as:

There are no significant differences in the academic performance of adult and younger students not taking ability into consideration. The General Linear Models Procedure was also used for the analysis of Hypothesis No. 9. The results are presented in Table 17.

TABLE 16
GENERAL LINEAR MODELS PROCEDURE FOR CUMULATIVE
GPA BY AGE AND ACT COMPOSITE

Dependent Variable: CUMGPA						
Source	df	F Value	PR F	DF	F Value	PR F
Age	1	6.05	0.0140	1	0.48	0.4872
Composite ACT	27	12.92	0.0001	27	12.92	0.0001

TABLE 17
GENERAL LINEAR MODELS PROCEDURE FOR
CUMULATIVE GPA BY AGE

Dependent Variable: CUMGPA						
Source	df	F Value	PR F	DF	F Value	PR F
Age	1	8.20	0.0042	1	8.20	0.0042

The resultant probability of greater than F was calculated at the 0.0001 level of significance which is highly significant. Based on the results of the statistical analyses, Hypotheses No. 9 as stated in the null form was rejected. There was a significant difference between adult and younger students' performance or cumulative grade point averages not taking ability into consideration. There was a significant difference between the age groups levels of performance. Rewritten in the Alternative Hypothesis form, Hypothesis No. 9 can be stated as being true:

There are significant difference in the academic performance of adult and younger students not taking ability into consideration.

Research Objective III was concerned with the academic performance of adult and younger students. Hypotheses 8 and 9 were formulated as being relevant to Research Objective III. Significant differences were found in performance of adult younger students while taking ability into consideration and while not taking ability into consideration.

Research Objective IV - Retention

Research Objective IV was concerned with the differences in full-time and part-time status of the study population, the stopout rates, the dropout rates, and the graduation rates of adult and younger students. Percentages and Chi-Square values were computed for each of the five hypotheses relating to Research Objective IV. A summary of the results of the statistical analyses for Hypotheses 10 to 13 inclusively are presented in Table 18.

Hypothesis No. 10

Hypothesis No. 10 was stated as:

There are no significant differences in full-time versus part-time status in adult and younger students.

TABLE 18
SUMMARY OF χ^2 TESTS FOR RESEARCH OBJECTIVE IV

Ho	Chi-Square	Critical Value		Accepted/Rejected
		Significance Level = .01	Significance Level = .05	
10	120.306	6.635	3.841	rejected at both levels
11	12.438	6.635	3.841	rejected at both levels
12	16.852	6.635	3.841	rejected at both levels
13	49.758	6.635	3.841	rejected at both levels
14	27.606	6.635	3.841	rejected at both levels

A Chi-Square test was used for the analysis of Hypothesis No. 10. The results are presented in Table 19.

The resultant χ^2 value was 120.36 indicating a very high degree of significance. The required values for significance were 6.635 at the .01 level and 3.841 at the .05 level of significance. There were 72 percent part-time adults compared to 27 percent part-time younger students.

Based on the results of the Chi-Square Test, Hypothesis No. 10 as stated in the null form was rejected. Rewritten in the Alternative Hypothesis form, Hypothesis No. 10 can be stated as being true:

There are no significant differences in stopout rates of part-time and younger students.

Hypothesis No. 11

Hypothesis No. 11 was stated as:

There are no significant differences in stopout rates of part-time and younger students.

TABLE 19

TABLE OF PART-TIME/FULL-TIME BY AGE

PART-TIME FULL-TIME	AGE		Total	
	Adult	Younger		
Part-Time	93	602	695	Frequency
	3.93	25.41	29.34	Percent
	13.38	86.62		Row Pct
	72.09	26.88		Col Pct
Full-Time	36	1638	1674	Frequency
	1.52	69.14	70.66	Percent
	2.15	97.85		Row Pct
	27.91	73.13		Col Pct
Total	129	2240	2369	
	5.45	99.55	100.00	

Statistics

Chi-Square = 120.36

df = 1 Prob. = 0.0001

A Chi-Square Test was used for the analysis of Hypothesis No. 11. The results are presented in Table 20.

The resultant X^2 value was 12.438 indicating significance. The required values for significance were 6.635 at the .01 level and 3.841 at the .05 level of significance. Eighty-three percent of the part-time adults stopped out while 64 percent of the part-time younger students stopped out.

Based on the results of the Chi-Square Test, Hypothesis No. 11 as stated in the null form was rejected. Rewritten in the Alternative Hypothesis form, Hypothesis No. 11 can be stated as being true:

There are no significant differences in stopout rates of full-time adult and younger students.

TABLE 20
TABLE OF PART-TIME STOPOUTS BY AGE

PART-TIME STOPOUTS	AGE		Total	
	Adult	Younger		
Part-Time Stopouts	77	387	464	Frequency
	11.08	55.68	66.76	Percent
	16.59	83.41		Row Pct
	82.80	64.29		Col Pct
Part-Time Non-Stopouts	16	215	231	Frequency
	2.30	30.94	33.24	Percent
	6.93	93.07		Row Pct
	17.20	35.71		Col Pct
Total	93	602	695	
	13.38	86.62	100.00	

Statistics

Chi-Square = 12.438

df = 1 Prob. = 0.0004

Hypothesis No. 12

There are no significant differences in stopout rates of full-time adult and younger students. A Chi-Square Test was used for the analysis of Hypothesis No. 12. The results are presented in Table 21.

The resultant X^2 value was 12.438 indicating significance. The required values for significance were 6.635 at the .01 level and 3.841 at the .05 level of significance. Only 41 percent of the full-time younger students stopped out compared to 75 percent of the full-time adult students who stopped out.

Based on the results of the Chi-Square Test, Hypothesis No. 12 as stated in the null form was rejected. Rewritten in the Alternative Hypothesis form, Hypothesis No. 12 can be stated as being true:

TABLE 21
TABLE OF FULL-TIME STOPOUTS BY AGE

FULL-TIME STOPOUTS	AGE		Total	
	Adult	Younger		
Full-Time Stopouts	27 1.61 3.87 75.00	670 40.02 96.13 40.90	697 41.64	Frequency Percent Row Pct Col Pct
Full-Time Non-Stopouts	9 0.54 0.92 25.00	968 57.83 99.08 59.10	977 58.36	Frequency Percent Row Pct Col Pct
Total	36 2.15	1638 97.85	1674 100.00	

Statistics

Chi-Square = 16.852

df = 1 Prob. = 0.0001

There are significant differences in stopout rates of full-time
adult and younger students.

Hypothesis No. 13

Hypothesis No. 13 was stated as:

There are no significant differences in dropout rates of adult and younger students. A Chi-Square Test was used for the analysis of Hypothesis No. 13. The results are shown in Table 22.

The resultant X^2 was 49.758 indicating a high degree of significance. The required values for significance were 6.638 at the .01 level and 3.841 at the .05 level of significance. There were 79 percent of the adult students who dropped while there were only 47 percent of the younger students who dropped out.

TABLE 22
TABLE OF DROPOUTS/PERSISTERS BY AGE

DROPOUTS PERSISTERS	AGE			
	Adult	Younger	Total	
Dropouts	102 4.31 8.81 79.07	1056 44.58 91.19 47.14	1158 48.88	Frequency Percent Row Pct Col Pct
Persisters	27 1.14 2.23 20.93	1184 49.98 97.77 52.86	1211 51.12	Frequency Percent Row Pct Col Pct
Total	129 5.45	2240 94.55	2369 100.00	

Statistics

Chi-Square = 49.758

df = 1 Prob. = 0.0001

Based on the results of the Chi-Square Test Hypothesis No. 13 as stated in the null form was rejected. Rewritten in the Alternative Hypothesis form, Hypothesis No. 13 can be stated as being true:

There are significant differences in dropout rates of adult and younger students.

Hypothesis No. 14

Hypothesis No. 14 was stated as:

There are no significant differences in graduation rates of adult and younger students. A Chi-Square Test was used for the analysis of Hypothesis No. 14. The results are presented in Table 23.

TABLE 23
TABLE OF GRADUATES BY AGE

GRADUATES	AGE		Total	
	Adult	Younger		
Non-Graduates	120	1611	1731	Frequency
	5.07	68.00	73.07	Percent
	6.93	93.07		Row Pct
	93.02	71.92		Col Pct
Graduates	9	629	638	Frequency
	0.38	26.55	26.93	Percent
	1.41	98.59		Row Pct
	6.98	28.08		Col Pct
Total	129	2240	2369	
	5.45	94.55	100.00	

Statistics

Chi-Square = 27.606

df = 1 Prob. = 0.0001

The resultant X^2 was 27.606 indicating significance. The required values for significance were 6.638 at the .01 level and 3.841 at the .05 level of significance. There were only 7 percent of the adults who graduated while 28 percent of the younger students graduated.

Based on the results of the Chi-Square Test, Hypothesis No. 14 as stated in the null form was rejected. Rewritten in the Alternative Hypothesis form, Hypothesis No. 14 can be stated as true:

There are significant differences in graduation rates of adult and younger students.

Research Objective IV focused on the retentive characteristics of adult and younger students. Hypotheses 10 through 14 were formulated as being relevant to Research Objective IV. Significant differences between adult and

younger students were calculated with regard to part-time and full-time status, stopout rates, dropout rates, and graduation rates.

Summary

Chapter IV has presented the results of the study. Statistical analyses of the data used in this research project were presented in this chapter.

The statistical testing of the hypotheses relating to Research Objective I are summarized in Table 2. Hypothesis No. 1 could not be rejected at either the .01 or .05 levels of significance. Hypothesis No. 2 and Hypothesis No. 3 were rejected at both the .01 and the .05 levels of significance.

The statistical testing of the hypotheses relating to Research Objective II are summarized in Table 8 and Table 9. Hypothesis No. 4 was rejected after a stepwise regression calculated four variables would enter the regression model for younger students and only two entered for adult students. Hypothesis No. 5, No. 6 and No. 7 were rejected at both the .01 and .05 levels of significance.

Table 15 presented a summary of Hypotheses No. 8 and No. 9. Both were rejected and related to Research Objective III.

The statistical analyses of the hypotheses relating to Research Objective IV are summarized in Table 18. Hypotheses No. 10 through 14 inclusively were rejected at both the .01 and .05 levels of significance.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Chapter V presents a summary of the study, the conclusions drawn from the study, and recommendations for further research.

Summary

This study examined adult students at the University of Oklahoma by comparison to younger students in retention, demographics, academic characteristics and performance. The sample was a total population of new freshmen entering the University of Oklahoma the fall semester of 1977.

For the purpose of this study, the problem was stated as: "Are there differences between adult students who enter a four-year institution after age 20 and younger students and if so are these differences significant?"

To outline this study four research objectives were identified. Research Objective I related to the demographic characteristics of adult and younger students. Research Objective II related to the academic characteristics of the two groups. Research Objective III was concerned with the academic performance of adults in comparison of younger students. Research Objective IV identified the retentive characteristics of adults and younger students.

Fourteen null hypotheses were formulated for this study. Three of the hypotheses related to Research Objective I, four related to Research Objective II, two related to Research Objective III, and five related to Research Objective IV.

From the results of the tested hypotheses conclusions were drawn relative to academic and retentive differences between new adult and younger students at a four-year institution of higher education. The conclusions drawn are reported in the next section.

Conclusions

From the results of this study, conclusions were drawn that:

1. There are no significant differences in the sex ratios of adult and younger students.
2. There are significant differences in ethnic origins of adult and younger students.
3. There are significant differences in marital status of adult and younger students.
4. There are differences in the predictive ability of ACT scores between adult and younger students.
5. There are significant differences on the ACT scores of adult and younger students.
6. There are significant differences on the selection of majors of adult and younger students.
7. There are significant differences in changing majors of adults and younger students.
8. There are significant differences in academic performance of adult and younger students.

9. There are significant differences in academic performance of adult and younger students not taking ability into consideration.
10. There are significant differences in full-time versus part-time status in adult and younger students.
11. There are significant differences in stopout rates of part-time adult and younger students.
12. There are significant differences in stopout rates of full-time adult and younger students.
13. There are significant differences in the graduation rates of adults and younger students.

Recommendations

From the findings and conclusions of this study, the researcher recommends that:

1. A study be done on the demographic and academic characteristics of adults who return to college to see if the results are significantly different from the findings of this study.
2. Interviews with adults attending the University of Oklahoma yearly over at least a four year period would determine if there are adult developmental themes which they would follow.
3. Modified replications of Kohlberg's and Perry's studies would be an interesting comparison with University of Oklahoma students.
4. An indepth study should be done to determine the reasons for such high percentages of adult dropouts, stopouts and low graduation rates.

5. A good research project would be to determine what good predictors of academic success in adult students.
6. The University of Oklahoma should sensitize staff and faculty to our adult student population high dropout and stopout rates in hopes of prodding some interest in improving those percentages and thus, helping adult students.

While this study has provided some insight into the differences between adult and younger students at the University of Oklahoma in the areas of demographics, academic characteristics, academic performance and retentive characteristics, the studies recommended would add to the limited body of knowledge about adults in four-year institutions of higher education. Hopefully, the information in this study will prove beneficial in identifying some problem areas for college and universities to work on for adult students. Learning is a never ending process and why should it not be at an institution of higher education?

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