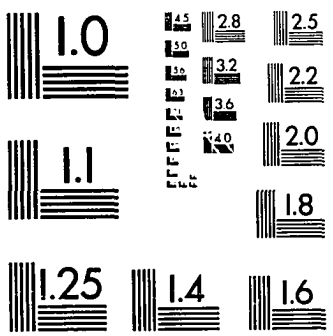

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CHARACTERISTICS WHICH DISTINGUISH BETWEEN UNDERACHIEVING AND OVERACHIEVING FRESHMEN AT A COMPREHENSIVE STATE UNIVERSITY

The University of Oklahoma PH.D. 1985

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CHARACTERISTICS WHICH DISTINGUISH BETWEEN UNDERACHIEVING AND OVERACHIEVING FRESHMEN AT A COMPREHENSIVE STATE UNIVERSITY

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By

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A DISSERTATION

APPROVED FOR THE COLLEGE OF EDUCATION

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CHAPTER I

THE PROBLEM

Introduction

One of the missions of colleges and universities is to advance learning by promoting student development, intellectual, personal and social. Institutions accomplish this by providing an environment which fosters change in students -- change in their knowledge, their values, and their behavior. Yet, students are more than mere objects of the educational process within the campus environment, they are a vital part of the environment. Through their diverse interests, abilities, and personalities, students contribute to the total campus culture, influencing the values, expectations and standards espoused by the institution. Student desires and institutional offerings coupled with the intensity with which students like or dislike certain aspects of college, and the attractiveness of competing activities all help to determine which program majors, courses, and teachers students will choose. These and other factors also influence

how hard students will work in school, how easily they will be able to learn, how well they will perform, and how satisfied they will be with their educational experience. Thus, a primary objective of every college or university is attracting and retaining those students who will facilitate the institution's accomplishment of its mission, while concomitantly benefiting from their collegiate experience.

Students develop in many ways during their years in college, not the least of which involves the continued expansion of their cognitive abilities through classroom experiences. Yet, differences among students cause some to achieve greater academic success than others because of their superior intellectual capacities. However, students with high aptitudes and strong academic backgrounds sometimes perform poorly while others with low aptitudes and weak academic backgrounds achieve relatively high academic success in college. In other words, some students underachieve and others overachieve. The reasons for under- and overachievement pose many difficulties with which educational researchers are constantly struggling. The fact of the matter is that students who underachieve or overachieve reflect the unreliability of our predictions of their future performance.[1] A student's past academic achievement may not always accurately predict his/her future performance because

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[1]Robert L. Thorndike, The Concepts of Over- and Underachievement, (New York: Columbia University Bureau of Publications, 1963), p. 2.

additional factors, both intellective and nonintellective, come into play. The goal of the researcher is to comprehend as fully as possible any differences among groups of students with similar backgrounds and to determine if a relationship exists between those differences and student achievement.

Much of the research prior to the 1960s dealing with college student achievement focused on students' cognitive or intellective abilities as they related to academic performance. More recently, however, studies on the topic have recognized nonintellective variables such as personality characteristics and demographic determinants as factors which influence achievement. In fact, Lavin, in his review of the research on academic prediction, stated that the relationship between ability and academic performance has been so well documented that most studies are no longer concerned with demonstrating this finding.[1] Thus, where the relationship between ability and performance clearly exists, the additional impact of nonintellective factors upon achievement has been shown through recent research to strengthen that relationship.

In order for one to discover which factors best correlate with student achievement, a criterion of performance is necessary. The traditional criterion of performance used in most achievement studies is the student's grade point average (GPA). While the criterion of GPA is subject to uncontrolled

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[1]David E. Lavin, The Prediction of Academic Performance, (New York: Russell Sage Foundation, 1965), p. 22.

sources of variation, such as teacher subjectivity or program course difficulty, grades are taken to be the most viable index of competence in college work available to researchers, if for no other reason than their acceptance by graduate schools and employers.[1]

In identifying students as either underachievers or overachievers, researchers customarily focus on the discrepancy between a student's actual first-year GPA and his predicted GPA. The predicted GPA is a value computed from a regression equation correlating high school background variables (GPA and standardized test scores) with freshman year GPA. Thus, an underachiever would be the student whose actual grade is lower than his/her predicted grade, and, conversely, an overachiever would be the student whose actual grade exceeds his/her predicted grade. Grouping students according to their under- or overachievement status enables the researcher to examine students' collective backgrounds for any possible relationships which may exist between those background characteristics and achievement.

Statement of the Problem

The purpose of this study is to determine which intellective and nonintellective factors distinguish underachieving from overachieving freshmen at the University of Oklahoma. Specifically, the study compares academic, demographic, and

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[1]Ibid., p. 14.

personal characteristics of freshmen who are identified as underachievers and freshmen who are identified as overachievers.

Three basic research objectives are investigated in this study. The first research objective is to compare the academic backgrounds of under- and overachieving freshmen, taking into consideration their high school GPAs and ACT scores as they relate to their freshman year academic performance. The second research objective is to investigate the demographic characteristics of under- and overachieving freshmen. The third research objective is to analyze the personal background characteristics such as goals, attitudes and beliefs of under- and overachieving freshmen.

Significance of the Problem

The intent of this study is to gain a more thorough understanding of freshmen by identifying those students whose chances of completing college and further developing their cognitive and affective competencies may be enhanced or diminished in light of their attendant characteristics.

The underachieving student presents a special concern to college administrators as many of the factors that contribute to underachievement also contribute to attrition.[1] Reducing student attrition has been a goal of universities

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[1]Philip Romine and Orville Crowell, "Personality Correlates of Under- and Overachievement at the University Level," Psychological Reports 48 (June 1981), p. 787.

for decades and has assumed an even greater importance during recent years because of declining enrollments. Astin, one of the leading researchers of college student attrition, has documented an average 42% dropout rate among U.S. four-year colleges and universities.[1] Similarly, 54% of 1980 freshmen at the University of Oklahoma have neither graduated from the University nor were enrolled in 1985.[2] Though not all dropouts leave college life altogether, studies have shown that more than a third of the students who actually enter college never obtain the baccalaureate degree.[3] Additionally, voluntary withdrawal and forced dismissal take their heaviest toll during the freshman year.[4] Thus, a timely identification of those "at-risk" students would allow for intervention programs which would, hopefully, increase freshman persistence.

Definition of Terms

Because of their unique nature, several terms used in

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[1]Alexander W. Astin, "College Dropouts: A National Profile," American Council on Education Research Reports, Vol. 7, No. 1, (Washington, D.C.: American Council on Education Publications Division, 1972), p. 2.

[2]Myrna Carney, "Data Related to Enrollment, Retention, and Recruitment of Students at the University of Oklahoma" (Center for Instructional Research, U. of Oklahoma, March 1985).

[3]Alexander Astin, "Personal and Environmental Factors Associated with College Dropouts Among High Aptitude Students," Journal of Educational Psychology, 55 (1964): 219.

[4]Kaoru Yamamoto, ed., "Those Who Leave: Stories of Fulfillment and Frustration," The College Student and His Culture: An Analysis, (Boston: Houghton Mifflin Company, 1968), p. 419.

this study require definition. "Academic achievement" is an ambiguous term that may assume several meanings. Within the context of this study, academic achievement connotes a student's performance as indicated by his/her freshman year cumulative grade point average.

While "high school grade point average" (HSGPA) appears self-explanatory, the term has a unique meaning for this study because the HSGPA has not been calculated and entered onto the university's files for every student. The actual grade point average derived from the student's transcript is used for those students whose HSGPA has been entered onto the computerized student master file by the University Admissions staff, or approximately 50% of the study population. For the remaining 50% of the study population, the average high school English, math, social studies and natural science grades, self-reported by the student on the ACT Student Profile Section and entered onto the student file, were used. The two terms "full-time student" and "new freshman" are unique in the way they describe the study population. A full-time student is one who enrolls in a minimum of twelve credit hours per semester for two consecutive semesters. A "new freshman" is a student who enrolls at the University of Oklahoma with six or fewer college credits.

The terms "overachievement" and "underachievement" have different meanings for different researchers, as are discussed in the Review of the Literature. For this study,

the concepts represent the discrepancy between predicted and actual performance; overachievement is student performance that exceeds the level that would be predicted from measures of intellectual ability and underachievement is student academic performance that falls below the level that would be predicted from measures of intellectual ability. Specifically, overachievers are those students whose freshman year grade point average exceeds 1.00 standard error of estimate of a multiple linear regression line which represents predicted achievement; underachievers are those students whose freshman year grade point average are below 1.00 standard error of estimate.

Limitations of the Study

This study is limited to new freshmen, those who have earned less than six credits, who first enrolled at the University of Oklahoma during the summer or fall terms from 1981 to 1984. The study also includes only full-time freshmen, or those students enrolled in twenty-four or more credit hours during their freshman year. The study is limited further by the definition of under- and overachievers identified in the Definition of Terms.

In determining the groups of under- and overachieving freshmen, this study is based on the assumption that the academic background variables of high school GPA (HSGPA) and ACT scores are the most appropriate measures available for predicting students' academic performance during their fresh-

man year at college. However, certain weaknesses in accuracy and predictability are inherent in both HSGPA and ACT, since it is impossible to find all the measurable activities which might relate to future academic performance, further limiting the study.

While both HSGPA and ACT scores represent a student's knowledge obtained through learning, each is unique in its own way. For the 50% of the study population whose actual HSGPAs were available for use in the present research, the HSGPA represents a summary of work over a four-year period and may be considered to be an indicator of motivation as well as achievement. Though possibly contaminated by teacher subjectivity, grade inflation, or personality conflicts between the teacher and student, the HSGPA is more representative of the student's total background than the ACT (for half of the study population) as the HSGPA reflects not only the "solid" academic subjects, but subject areas of interest, such as music, physical education, debate or drama, as well.

ACT scores, on the other hand, represent a combination of achievement and aptitude. As an achievement test, the ACT measures a student's cognitive proficiency in the areas of English, math, social studies and natural science. As an aptitude test, the ACT attempts to assess an individual's capacity for learning by requiring of the student analysis and interpretation in new situations -- skills which may or may not be reflected in high school grade point averages.

In measuring the abilities a student will most likely need in college, the ACT emphasizes the student's ability to use his/her knowledge of the subject matter in conjunction with his/her reasoning ability.

The nature of both grading and standardized testing has been the subject of controversy for decades because of the popularly made assumptions regarding their infallibility to categorize students as either bright or dull -- successful or unsuccessful. Yet, there is much support for the premise in psychometric science that uncontrolled error variance exists in all forms of measurement. Even the makers of standardized tests such as the ACT Board and the College Entrance Examination Board admit that their tests can never measure directly a student's capacity to learn, but only serve to provide samples of current behavior. It is further accepted that such tests measure only those aspects of behavior limited to knowledge of English, math, social studies or natural science, omitting other behaviors equally useful in college life, such as creativity or motivation. Moreover, many students have not learned the skills, knowledge, and attitudes required to perform successfully on standardized tests, yet may very well succeed in their freshman classes. The above considerations should serve to quash such unreasonable assumptions about the degree of HSGPA and ACT reliability.

A student's performance represents only limited

information that may vary with circumstances, and a student's academic ability or capacity to achieve cannot be accurately determined by a numeric formula. Yet, the study proceeds on the premise that HSGPA and ACT scores offer the most accurate information on student performance readily obtainable in mass culture -- far more useful than impressionistic, subjective evaluations. The use of HSGPA and ACT scores as predictors may be further justified by their utilization as a means of providing information for the University and not actually affecting the placement or selection of students.

Organization of the Study

Chapter I includes an introduction to the study, the statement of the problem, the significance of the problem, the definitions for the study, and the limitations of the study. Chapter II presents a review of the literature related to the study, as well as provides a theoretical framework around which the study will be based. Chapter III presents the methodology to be used in the study, including the procedures to be used in collecting, analyzing and interpreting the data.

Chapter IV presents the results of statistical analyses, the testing of the hypotheses and the interpretation of the findings. In addition, findings from University of Oklahoma freshman data is compared with national freshman data collected by the Cooperative Institional Research Program in order to determine if regional characteristics correspond

with national trends as identified by the CIRP studies for the years 1981 through 1984. Chapter V presents a summary of the study along with conclusions and recommendations drawn from the results of the study.

CHAPTER II

THEORETICAL FRAMEWORK AND REVIEW OF THE LITERATURE

Introduction

Student academic performance, including the concepts of under- and overachievement, is a response of the developing personality to more than formal classroom teaching, necessitating a theoretical framework to help explain these concepts. However, academic achievement, as one aspect of college student development, does not fit a single comprehensive theoretical model, but, rather, incorporates three related families of theories -- cognitive developmental theories, psychosocial theories, and person-environment interaction theories. Within the context of this study, a relevant theoretical framework borrowing from each of the families will be examined in terms of how theory addresses the issue of student differences among under- and overachievers.

Cognitive Developmental Theory

Employing the structuralist view articulated by Jean Piaget, cognitive theorists view development as a sequence of irreversible stages through which individuals go with each stage representing a qualitatively different way of

thinking.[1] Of the cognitive developmental theories prevalent in the higher education literature, William Perry's model focusing on intellectual and ethical development most closely identifies with under- and overachieving college students.

Perry's framework consists of nine developmental stages through which students progress in conceptualizing knowledge and values. The first three stages represent knowledge that is dualistic -- right or wrong, good or bad. Within these stages, a student has limited rights to his/her own opinions and is considered a receptacle ready to receive "truth." The next three stages recognize knowledge as relative or contextual. Students moving in these three stages are aware that the "truth" they create emerges from their own experiences and judgments. In the final three stages, students accept the responsibility of the pluralistic world and act through commitment to establish identity. Here, students undertake to find their particular balance point on the various polarities important to them, such as being controlled versus being impulsive, or being a realist versus being an idealist.[2]

Perry identifies three types of delays often reflected in a student's developmental progress. A temporizing delay represents a student's pausing during any of the stages when

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[1]Jean Piaget, "Development and Learning," in Readings in Learning and Human Abilities, ed. Richard E. Ripple (New York: Harper and Row, Publishers, 1971), p. 185.

[2]William G. Perry, Jr., Forms of Intellectual and Ethical Development in the College Years (New York: Holt, Rinehart and Winston, Inc., 1970), p. 41-57.

he/she is not quite ready for change. A retreat represents a regression into the dualism stages that results from insufficient psychological strength to cope with the uncertainty of the relativism stages. Finally, escape defines the behavior of students who avoid the responsibility necessary for commitment.[1]

Perry's scheme suggests that a student's sequential development influences his/her conception of knowledge which, in turn, determines his/her perceptions of the instructor's role juxtaposed to his/her own. While many educators may assume that college freshmen have moved beyond the "lower" dualistic positions into the stages of relativism, many freshmen, in fact, have not. Thus, individuals at different stages of their cognitive development possess quite different characteristics, explaining some of the variability which exists between underachieving and overachieving freshmen.

Psychosocial Developmental Theory

Another family of theories that logically relates to the concepts of under- and overachievement are the psychosocial developmental theories which build upon the work of Erik Erikson. Psychosocial theorists suggest that an individual develops through a sequence of stages that define the life cycle, and, at certain stages of life, particular facets of one's personality emerge as the central concern that must be

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[1]Ibid., p. 10.

addressed. Erikson views development as a product of the transactions between an individual's inner realm and his/her social environment.[1] Building upon Erikson's "identity" stage is the theoretical model of student development proposed by Arthur Chickering.

In Education and Identity, Chickering provides a most useful contribution to the theories of college student development. He suggests that the college student's central task is establishing an identity and postulates seven vectors that comprise identity development in young adults.[2] (The term "vector" is basically the same as stage, but connotes both direction and magnitude.) The seven vectors are developing competence, managing emotions, developing autonomy, establishing identity, freeing interpersonal relationships, clarifying purpose, and developing integrity. The first three are antecedent to and prerequisite for the central vector of identity, and the latter three follow from an established identity. While Chickering's model suggests specific tasks that a student must master in order for development to continue, his theory emphasizes that not all students of similar age are at the same level.[3] Students may vary substantially in terms of what vectors are central to their lives upon

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[1]Erik H. Erikson, Identity and the Life Cycle (New York: W.W. Norton & Company, 1980), p. 56.

[2]Arthur W. Chickering, Education and Identity (San Francisco: Jossey-Bass Publishers, 1969), p. 14.

[3]Ibid., p. 284.

enrollment their freshman year, possibly explaining some of the differences existing between under- and overachievers.

Person-Environment Interaction Theory

The basic tenet of the person-environment interaction theorists, such as John Holland, George Stern, or Roger Barker, is that people act within contexts that influence their behavior. These contexts may include properties of the physical environment, such as architecture, weather or geography, or the social environment, such as the social climate, organizational structure, or characteristics of the people who inhabit a particular environment. Congruence, or a good fit, between individuals (their needs, attitudes, goals, and expectations) and their environment is hypothesized to have a positive impact, thereby promoting satisfaction, achievement, and personal growth, while a poor fit creates stress.[1]

Among the many person-environment interaction theorists who explain student behavior in terms of this model is Alexander Astin. In his "input-environment-output model," Astin holds that students represent input through their prior knowledge, abilities, aspirations, motivations, and background characteristics as gender, ethnic origin, and socioeconomic status. The environmment comprises the institution's educational programs, cocurricular activities, and other

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[1]R.H. Moos, Evaluating Educational Environments: Procedures, Measures, Findings, and Policy Implications (San Francisco: Jossey-Bass Publishers, 1979), p. 8.

institutional characteristics to which students are exposed. The outcome component of the model involves students' cognitive and affective changes, which may be either temporary or permanent.[1] Results of his research suggest two tentative theoretical rules about person-environment congruence: students tend to be more satisfied the more closely they resemble the dominant pressures of the environment, and student satisfaction stimulates academic achievement and reinforces successful coping behaviors.

Thus, the models of person-environment interaction theories have direct implications on the concepts of under- and overachievement in that a student's academic performance may be explained in terms of his/her interaction with situational variables presented by the institution's environment.

Theoretical models of student development are necessary to fully comprehend and conceptualize the problems and issues that relate to under- and overachieving freshmen. Where no single theoretical family can provide the necessary parameters to explain academic performance differences among students, the three families together -- cognitive developmental theories, psychosocial theories, and person-environment interaction theories -- can. Moreover, the three do not consist of unique bases, but relate to each other through common elements. Perhaps the relationship among these three student

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[1]Alexander W. Astin, The College Environment (Washington, D.C.: American Council on Education, 1968), p. 4.

development theories can best be summarized by the philosophy known as "The Student Personnel Point of View" which urges educators to respond to the whole person, attend to individual differences, and work with students at their levels of development.[1]

Borrowing from the three families, a hypothetical framework applicable to the present study might be termed the "interactive-developmental" theoretical model. Students interact daily with various environmental situations both within and outside of the university. Such interaction affects a student's cognitive development -- what he thinks, believes and learns -- as well as the development of his personality or personal characteristics. Because students respond differently to stimuli, their cognitive and affective development and growth progress at different rates partially explaining the achievement differences found not only in the literature among students with similar backgrounds, but in the present study as well.

Review of the Literature

There are numerous factors, both intellective and nonintellective, that influence college student achievement, and a review of the literature examines these factors as they relate to the concepts of under- and overachievement in col-

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[1]American Council on Education. The Student Personnel Point of View (Washington, D.C.: American Council on Education Studies, 1937), Series 1, Vol. 1, No. 3.

lege freshman academic performance. Where there exists an abundance of research dealing with the academic achievement of college students in general, relatively few studies have been devoted to characteristics of under- and overachieving freshmen; of those, the majority deal with underachievement. In light of this situation, the literature reviewed in this investigation includes studies dealing with high and low achieving college students when a rational relationship may be drawn from the findings of those studies to the issues of the present research. An attempt has been made to group similar research studies together according to the variables analyzed although some overlap will be impossible to avoid. For purposes of this study, prior research reviewed will correspond with the research objectives identified in the Statement of the Problem: studies which define under- and overachieving freshmen according to mathematical formulas; studies which examine under- and overachieving freshman academic backgrounds; studies which focus on demographic characteristics of under- overachieving freshmen; and studies which investigate personal attributes, such as goals, attitudes and beliefs, of under- and overachieving freshmen.

Review of Underachievement and Overachievement

In an attempt to identify factors which distinguish under- and overachievement, the terms must first be clearly understood. Some researchers incorrectly consider the terms

to be synonymous with low and high achievement, yet that implies an absolute standard of performance. More appropriately, the concepts of under- and overachievement represent the discrepancy between predicted and actual performance. Predicted performance, which becomes the standard used for comparison, is derived from a regression equation which uses background data of all students to estimate mathematically the predicted average performance for each member of the group. Once the regression formula has been derived, students may be categorized into one of three groups -- average achievers (those who achieve the academic performance that was predicted from the formula), underachievers (those who fail to achieve their predicted academic performance), and overachievers (those who exceed their predicted performance).

In order to determine which background factors to use in prediction equations, a review of the literature is necessary. Both Lavin, who has reviewed much of the pre-1965 literature on predicting achievement, and, more recently, Astin concur that the overwhelming majority of studies utilize unmodifiable factors such as measures of past achievement and measures of aptitude.[1] Since the 1940s, hundreds of studies have concluded that high school achievement is the best predictor of grades during the first year of college,

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[1]Lavin, p. 57; Alexander W. Astin, Four Critical Years (San Francisco: Jossey-Bass, Publishers, 1977), p. 101.

moreso than subject-matter or psychological tests.[1] For college freshmen, measures of aptitude such as scores on college admission tests, such as the SAT (Scholastic Aptitude Test) or ACT (American College Test), are also good predictors of future performance. Since the ACT is composed of four subset scores and a composite score, some researchers use individual subtest scores from the ACT, or a combination, in the equation. Moreover, other researchers substitute high school rank for high school GPA.[2] Besides incorporating a regression, or prediction, equation to identify under- or overachieving freshmen, many researchers employ cut-off points to separate the under and overachievers from normal achievers.[3] These cut-off points are usually +1.00 or -1.00 standard deviation from the mean, or +1.00 or -1.00 standard

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[1]Morris I. Stein, Personality Measures in Admissions (New York: College Entrance Examination Board, 1963), p. 1.

[2]Joseph A. Merante, "Predicting Student Success in College," NASSP Bulletin 67 (February 1983):41-46.

[3]L. Adams, H. Higley, and L. Campbell, "Statistical Comparison of Entrance Prediction Equations Using ACT or SAT Scores, or Both," College and University 51 (Winter 1976);Maury Lacher, "The Life Styles of Underachieving College Students," Journal of Counseling Psychology 20 (May 1973); Kenneth Mitchell and Olga Piatkowska, "Effects of Group Treatment for College Underachievers and Bright Failing Underachievers," Journal of Counseling Psychology 21 (November 1974); Ross Moen and Kenneth O. Doyle, Jr., "Measures of Academic Motivation: A Conceptual Review," Research in Higher Education 8 (May 1978); Philip G. Romine and Orville C. Crowell, "Personality Correlates of Under- Overachievement at the University Level," Psychological Reports 48 (January 1978); Richard Williams, "Personality, Ability and Achievement Correlates of Scholastic Aptitudes," Journal of Educational Research 68 (July 1974).

error of estimate, with underachievers falling below the standard deviation or estimate and overachievers placing above. The ± 1.00 cutoff points allow for any error variance inherent in any regression formula before placing a student in an under- or overachievement category.

Though the regression method appears to be the most accurate, under- and overachievement have been defined in the literature in other ways. Some researchers have differentiated between the two levels of achievement according to GPA, designating "A" students as overachievers and "below C" students as underachievers.[1] Another study used trichotomized first-year grades to signify overachievers as those students in the upper third and underachievers as those in the lower third.[2] Still others have used ACT cut-off points to denote under- and overachievers[3], or considered all

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[1]Irene M. Bozak, "A Summer Project for Underachieving Freshmen," Improving College and University Teaching 17 (Summer 1969):208-211; Bernadette M. Gadzella and Glenn P. Fournet, "Differences between High and Low Achievers on Self-Perceptions," Journal of Experimental Education 44 (Spring 1976):44-48; John M. Griffin, "Underachieving Students in Community Colleges: Common Personality and Biographical Characteristics," Community College Review 8 (Summer 1980):15-19.

[2]Robert J. Griffore and Gaile D. Griffore, "Some Correlates of High and Low First Term Achievement in College," College Student Journal 16 (Fall 1982):249-253.

[3]Cassandra B. Whyte, "Effective Counseling Methods for High-Risk College Freshmen," Measurement and Evaluation in Guidance 10 (January 1978):198-200.

students on academic probation as underachievers.[1]

Academic Background Characteristics

As has been stated previously, the literature abounds with studies correlating freshman year academic success with academic success in high school and academic aptitude as measured by standardized tests. Where single correlations of .50 using the two standards of academic achievement are commonplace, thus, more recent research has attempted to improve academic prediction by combining standardized tests and high school academic performance with nonintellective, or biographical, data. Though the traditional predictors of test scores and high school GPA always yield the highest correlation with first-year GPA, the overall multiple correlation using a combination of intellective and nonintellective data usually increases the correlation coefficient by .01 to .22 of a regression point.[2]

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[1]John M. Williams, Thomas W. Decker, and Anthony Libassi, "The Impact of Stress Management Training on the Academic Performance of Low-Achieving College Students," Journal of College Student Personnel 24 (November 1983):491-94.

[2]C.A. Lindsay and R. Althouse, "Comparative Validities of the Strong Vocational Interest Blank Academic Achievement Scale and the College Student Questionnaire Motivation for Grades Scale," Educational and Psychological Measurement 29 (March 1969):489-493; R. C. Nichols, "Nonintellective Predictors of Achievement in College," Educational and Psychological Measurement 26 (1966):899-915; D.A. Payne, F.E. Rapley, and R.A. Wells, "Application of a Biographical Data Inventory to Estimate College Academic Achievement," Measurement and Evaluation in Guidance 6 (March 1973):152-156; A.L. Stroup, "The Prediction of Academic Performance from Personality and Aptitude Variables," The Journal of Experimental Education 38 (Fall 1970):83-86.

In a study dealing with underachievers, Smith discovered that underachieving freshmen with high ability had worse high school records than achievers, suggesting that these students underachieved in high school as well.[1] A similar study by McCausland and Stewart characterized underachievers as having high ACT composite scores (above 28) but poor attitudes and study habits due to their low freshman GPA.[2]

The "interactive-developmental" theoretical framework with its premise of student differences supports the findings in the literature related to first year academic performance. Both intellective and nonintellective data have been utilized as predictors of freshman year achievement, while nonintellective factors have been shown to affect underachievement.

Demographic Characteristics

In researching such socioeconomic variables as family income, father's educational level and student's religious preference, Barger and Hall found relationships between male and female student achievement and father's educational level, but not with family income or religious preference.[3]

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[1]Leland Smith, "Significant Differences between High Achieving and Non-Achieving Freshmen as Revealed by Interview Data," Journal of Educational Research 59 (1965):10-12.

[2]Donald F. McCausland and Nancy E. Stewart, "Academic Aptitude, Study Skills, and Atittudes and College GPA," Journal of Educational Research 67 (April 1974):353-357.

[3]Ben Barger and Everette Hall, "The Interaction of Ability and Socioeconomic Variables in the Prediction of College Dropouts and Grade Achievements," Educational and Psychological Measurement 25 (March 1965):501-508.

In another study, Brown and Dubois discovered positive relationships between father's level of education and student performance at college.[1] In his work Predicting Academic Performance in College, Astin examined many demographic characteristics and found significant relationships between students' sex (females got higher grades than equal ability males) and parents' educational level with academic success. Where the Barger and Hall study found no relationship with religious preference, Astin discovered that Jewish males performed higher than predicted, but Catholic females fared worse than predicted.[2] Where both of the studies found no relationship between parent's income level and freshman year success, another showed that freshmen from low income families achieved higher grades than those from high income familes.[3]

In a sample of 195 community college students, Griffin showed the demographic variables of age, sex and race to correlate with achievement.[4] Specifically, he found that

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[1]F.G. Brown and T.E. Dubois, "Correlates for Academic Success for High Quality Freshman Men," Personnel and Guidance Journal 42 (March 1964):603-607.

[2]Alexander W. Astin, Predicting Academic Performance in College (New York: Free Press, 1971), p. 20.

[3]Ruth B. Klein and Fred A. Snyder, "Non-Academic Characteristics and Academic Achievement," Journal of College Student Personnel 10 (September 1969):328-332.

[4]John M. Griffin, "Underachieving Students in Community Colleges: Common Personality and Biographical Characteristics," Community College Review 8 (Summer 1980):15-19.

older students, female students, and Black students achieved higher grades their freshman year than did their counterparts.

Several researchers have investigated the demographic variables of students' home town or high school size. Smith found underachieving freshmen to hail from large metropolitan areas with populations in excess of 600,000, while the highest achievers came from cities between 50,000 and 100,000. He also found that underachievers had more likely attended high schools larger than 1,000 students, where the higher achieving students came from smaller high schools.[1] Yet, the opposite conclusion was reached by Flaugher and Rock (1969) who discovered that underachievers came from smaller towns (under 10,000 population).[2] Still other studies examining the relationship between high school size and freshman performance have found that students from smaller high schools perform similarly to those from larger schools.[3]

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[1]Smith, pp. 10-12.

[2]Ronald L. Flaugher and Donald A. Rock, "A Multiple Moderator Approach to the Identification of Over- and Underachievers," Journal of Educational Measurement 6 (Fall 1969):223-228.

[3]Mary E. Huba, "Relationships Among High School Size, Other High School Characteristics, and Achievement in the Freshman Year of College," College Student Journal 17 (Fall 1983):284-93; R.G. Downey, "Differences between Entering Freshmen from Different Size High Schools," Journal of College Student Personnel 19 (July 1978):353-359; V.M. Cashen, "High School Size as a Factor in College Academic Success," Journal of Secondary Education 45 (October 1970): 256-259; and Donald P. Hoyt, "Size of High School and College Grades," Personnel and Guidance Journal 37 (April 1959): 69-573.

In a study of campus residence patterns, Weislogel found that students living in single sex dormitories achieved higher GPAs than predicted, whereas students living in coed dorms or commuting students had GPAs below their predicted average.[1] Also, Pascarella noted that students who lived on campus were more likely to be less religious, more liberal, and have higher degree expectations than those who did not.[2]

The literature dealing with demographic characteristics provides interesting, often contrary, findings in relationship with freshman achievement. Four studies revealed a positive relationship between student performance and parents' education, while only one of three studies showed a relationship between parental income and achievement. Of the two studies which investigated the religious preference of students, only one found a relationship with academic performance. Two studies found that females achieved higher grades than males with similar academic backgrounds.

Many studies investigating the relationship between achievement and high school or hometown size have been conducted. Of the six reviewed, no differences in the performance of students from either small or large high schools

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[1]Louis F. Weislogel, "Academic Over- and Underachievement and Residence Patterns," A paper presented to Nova U. in partial fulfillment of degree requirements, June 1977.

[2]Ernest Pascarella, "The Influence of On-Campus Living versus Commuting to College on Intellectual and Interpersonal Self-Concept," Journal of College Student Personnel 26 (July 1985):292-299.

were found; one researcher found that students from large (greater than 600,000) metropolitan areas were more likely to underachieve, while another found students from smaller towns more likely to underachieve.

In addition, two studies investigating the effects of on-campus living were reviewed; one found students who lived in single-sex dormitories to achieve higher GPAs than predicted from their academic backgrounds. The other researcher discovered on-campus students to have higher degree expectations than those who lived off campus.

Personal Characteristics

The most recent research in college under- and over-achievement appears to employ personal traits, such as emotional, motivational, interpersonal and attitudinal characteristics of students, to improve upon the predictions of academic success obtained by using measures of past achievement alone. Yet, studies which examine the relationships between personal attributes and academic success are often tenuous and contradictory, except when used in conjunction with academic data. In fact, Nichols and Holland were among the first (1963) to show that personal traits were second only to actual high school achievement in predicting college performance.[1] Kerns found that overachieving students

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[1]R.C. Nichols and J.L. Holland, "Prediction of the First Year College Performance of High Aptitude Students," Psychological Monographs 77 (No. 7, 1963):1-29.

attended college for intellectual reasons, while underachievers attended for reasons such as "getting away from home" or "having a good time."[1] Similarly, another study found high achievers to be conscientious, less social, serious, hard-working, and organized, where underachievers with equal ability tend to be the opposite.[2] Two studies found underachievers to have negative attitudes toward college or to be defensive.[3]

Many studies have dealt with freshman goals, values and self-perceptions. Maxwell suggested that underachievers lack a clear system of goals and values, are vulnerable to disparagement by others, have an unclear relationship with their parents, and lack insight into their problem.[4] Evans and Anderson correlated underachievement with low self-concept, a

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[1]B.L. Kerns, "A Study of Underachieving and Overachieving First Semester College Freshmen as Revealed by the Way in which They View the College Situation and Themselves as College Students," Dissertation Abstracts, 17 (1957):2500.

[2]Philip G. Romine and Orville C. Crowell, "Personality Correlates of Under-Overachievement at the University Level," Psychological Reports 48 (June 1981):787-792.

[3]J.A. Finger and G.E. Schlesser, "Non-Intellective Predictors of Academic Success in School and College," School Review 73 (1965):14-29; and H.M. Tiebout, "The Misnamed Lazy Student," Educational Record 24 (February 1943):113-129.

[4]M. Maxwell, "Evaluation of a Self-Help Reading and Study Skills Program for Low-Achieving College Applicants," in R. Staiger and C. Melton (eds.) New Developments in Programs and Procedures for College Adult Reading (Milwaukee: Twelfth Yearbook of the National Reading Conference, 1963).

culture of poverty, and a "present-time" orientation.[1] Moreover, Klein and Snyder found that high achieving freshmen selected goals which represented intrinsic values moreso than underachievers and were more independent than underachievers as well.[2] Wankowski found not only independence in high achievers, but more tolerance to others as well as to academic pressures.[3]

In his study of overachievers, Lum reported that these students were more self-confident, more motivated to study, and had a greater capacity for working under pressure than did underachievers. He described the underachiever as having the tendency to procrastinate, relying upon pressure to complete assignments, and having a critical attitude toward educational methodology. [4]

A psychological factor that has been extensively examined in relationship to under- and overachievement is achievement motivation or need for achievement. A concept borne largely from the research of David McClelland and his coworkers in the early 1950s, achievement motivation asserts

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[1]F. Evans and J.G. Anderson, "Psychocultural Origins of Achievement and Achievement Motivation," Sociology of Education 46 (April 1973): 396-416.

[2]Klein and Snyder, p. 328-323.

[3]J.A. Wankowski, "Disenchanted Elite," in C.F. Page and J. Gibson (eds.) Motivation (London: Society for Research into Higher Education, 1973).

[4]M.K.M. Lum, "A Comparison of Under- and Overachieving Female College Students," Journal of Educational Psychology 54 (1970):415-420.

that a person's motive to achieve, his/her motive to avoid failure, and his/her expectation of success strongly influence the character of his/her motivation as it is expressed in level of aspiration, preference for risk, and willingness to put forth effort and persist in an activity.[1] In a summary of his years of research into the nature of achievement motivation, McClelland found that achievement motives develop in cultures and in families where an emphasis is on the independent development of the individual.[2] In similar studies dealing specifically with college students, motivational factors were found to have stemmed from socialization.[3] Sattler and Neuringer found in their research that a student's family environment influenced his/her tendency to under- or overachieve.[4] In another study dealing with freshman achievement motivation, Tillery and Kildegaard found that students' differing attitudes toward education and their

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[1]David C. McClelland, The Achievement Motive (New York: Appleton-Century-Crofts, Inc., 1963).

[2]Ibid.

[3]John L. Holland "The Prediction of College Grades from the California Psychological Inventory and the Scholastic Aptitude Test," Journal of Educational Psychology 50 (1959):135-142; D. R. Brown, "Personality, College Environment and Academic Productivity," in Nevitt Sanford (ed.) The American College (New York: John Wiley and Sons, 1962); and A.L. Stroup, "The Prediction of Academic Performance from Personality and Aptitude Variables," The Journal of Experimental Education 38 (Fall 1970):83-86.

[4]J.M. Sattlerand C. Neuringer, "Personality Characteristics Associated with Under- and Overachievement," Journal of College Student Personnel 6 (September 1965):284-289.

academic striving behaviors influenced their academic aspirations.[1] Similarly, Lindgren attributed students' high achievement to good study habits and high motivation to succeed.[2] More recently, Foshay and Misanchuk concluded that students' incentives to achieve in a course, time spent on studies, and education-oriented values all correlated with academic performance.[3]

Many studies have shown freshman academic self-concept or beliefs about the reasons for academic success or failure, to be an important factor in determining the degree of future success for students.[4]

Very similar to student academic self-concept are those studies which report the predictive ability of student

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[1]D. Tillery and T. Kildegaard, Educational Goals, Attitudes and Behavior (Boston: Balinger Publishing Co., 1973).

[2]H. Lindgren, The Psychology of Success: A Dynamic Approach (New York: John Wiley and Sons, Inc., 1973).

[3]W. Foshay and Earl Misanchuk, "Toward the Multivariate Modeling of Achievement, Aptitude, and Personality," Journal of Educational Research 74 (May/June 1981):352-357.

[4]George E. DeBoer, "The Importance of Freshman Students' Perceptions of the Factors Responsible for First-Term Academic Performance," Journal of College Student Personnel 24 (July 1983):344-349; D. Hamachek, Encounters with the Self, Second Edition (New York: Holt, Rinehart and Winston, 1978); R.J. Calsyn and D.H. Kenny, "Self-Concept of Ability and Perceived Evaluation of Others: Cause and Effect of Academic Achievement," Journal of Educational Psychology 69 (1977):136-145; Warren J. Valine, "A Four-Year Follow-Up Study of Underachieving College Freshmen," Journal of College Student Personnel 17 (July 1976):309-312; and I. Frieze and B. Weiner, "Cue Utilization and Attributional Judgments for Success and Failure," Journal of Personality 29 (1971):591-606.

self-predictions of their academic performance. Even though most students tend to overestimate their potential academic achievement, their predictions have often been used to determine who will underachieve and who will overachieve.[1]

Other studies pertaining to personal characteristics include one by Aiken, who found a correlation between the variables "attending college far from home" and "sure about vocational goals" and attrition during the freshman year.[2] Another study found that males, but not females, who expressed a preference for an academic major achieved higher grades than those who were unsure of a major.[3] For the personal characteristic of "scientific interests," Payne, Rapley and Wells noted a negative relationship with freshman year GPA.[4]

Though the findings are often contradictory, many studies have reported empirical results that indicate a

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[1]Robert J. Griffore and Gaile Griffore, "Some Correlates of High and Low First Term Achievement in College," College Student Journal 16 (Fall 1982):249.253; M.C. Holen and R.C. Newhouse, "Student Self-Prediction of Academic Achievement," Journal of Educational Research 69 (February 1976):219-220; K.E. Keefer, "Self-Prediction of Academic Achievement by College Students," Journal of Educational Research 63 (1969):53-56.

[2]L.R. Aiken, "The Prediction of Academic Success and Early Attrition by Means of a Multiple-Choice Biographical Inventory," American Educational Research Journal 1 (Winter 1964):127-135.

[3]H. Weitz and Jean Wilkinson, "The Relationship between Certain Nonintellective Factors and Academic Success in College," Journal of Counseling Psychology 4 (1957):54-60.

[4]Payne, Rapley and Wells, p. 152-156.

relationship between personality traits and academic achievement. In a review of research on such measures, Entwistle concluded that the introverted student was more likely to overachieve because of his/her good study habits than was the underachiever.[1] Yet, a different approach was taken by Stein, whose review of the personality/achievement literature revealed that groups of objective personality characteristics rather than single factors distinguished between under- and overachievers. His review included a discussion of the interaction approach, or relationship between a student and his/her environment, of categorizing students whereby a student may or may not be considered congruent with a hypothetical model of a successful student. Stein held that this type of evaluation possessed the greatest potential for predicting a student's academic success.[2]

A summary of the research reviewed on the relationship between personal characteristics and student performance shows underachievers to be more socially oriented, to be more likely to have negative attitudes toward college, to lack a clear system of goals and values, to have a lower self-concept, to be prone to procrastination, to be more likely to overestimate their potential academic performance, to attend college because its location is far from home, to be

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[1]N.J. Entwistle, "Personality and Academic Attainment," British Journal of Educational Psychology 42 (1972):137-151.

[2]Stein, Personality Measures in Admissions.

more sure of their vocational goals, and to have higher scientific interests than overachieving students.

On the other hand, the literature portrays overachievers as attending college for intellectual reasons, being more conscientious, self-confident, motivated and organized, having good study habits, choosing goals representing intrinsic values, displaying independence, exhibiting tolerance to others as well as to academic pressures, and expressing a preference for an academic major (for males) more so than underachievers.

Summary

Where the concept of academic achievement among college students has been extensively researched and reviewed in the literature, such has not been the case with under- and overachievement. Relatively few studies have investigated either the reasons for under- and overachievement or the characteristics of under- and overachieving freshmen. Moreover, the studies which have dealt with these concepts provide a diversity of findings within the three broad domains of student academic, demographic, and personal characteristics, presenting a confounding description of the "typical" under- or overachieving freshman.

The lack of a body of literature dealing specifically with under- and overachieving freshmen (or students, in general) has resulted in a somewhat eclectic review. Thus, the review of the literature includes studies which seem relevant

to this investigation and at least peripherally deal with either under- or overachievement. As is shown in Chapter V, this study substantiates previous research as well as fills in some missing blanks by providing as complete a description of under- and overachieving freshmen as possible with the available data -- one which utilizes a broad array of non-intellective background characteristics in conjunction with freshman academic data. The "interactive-developmental" theory supported by the literature provides a firm foundation on which this study is built.

CHAPTER III

METHODOLOGY

The principal research question is, "In what ways do underachieving freshmen at the University of Oklahoma differ from overachieving freshmen?" This chapter presents the methodology used in this study including the hypotheses, research design, population, subjects, instrument, variables, data collection, and data analyses.

Research Hypotheses

The following hypotheses correspond with the three basic Research Objectives of this study. The first two hypotheses relate to the first research objective of comparing the academic backgrounds of the two groups of freshmen. The two hypotheses are stated in the null form:

H_o1: There are no significant differences in the academic backgrounds of the groups of underachievers and overachievers.

H_o2: There is no significant difference in the freshman year academic performance of the groups of underachievers and overachievers.

The third hypothesis corresponds with the second research objective of investigating the demographic characteristics of the two groups of freshmen. Hypothesis No. 3 is stated in

null form:

H_o3: There are no significant differences in the demographic characteristics of the groups of underachievers and overachievers.

The fourth hypothesis relates to the study's third research objective of analyzing personal background characteristics such as goals, attitudes, and beliefs of under- and overachieving freshmen for possible differences. Hypothesis No. 4 is stated in null form:

H_o4: There are no significant differences in the personal background characteristics of the groups of underachievers and overachievers.

The Null hypotheses of the study state that no significant differences existed between the group of underachievers and the group of overachievers with regard to the independent variables. The four null hypotheses were tested by one-way analysis of variance. When the F-values were found to be significant at the .05 level of significance, the null hypotheses were rejected.

Research Design

This study utilized an ex-post facto descriptive design in examining data related to University of Oklahoma freshmen. Ex-post facto research is desirable in studying cause-and-effect relationships when manipulation of conditions and random assignment of groups cannot be carried out. The purpose of such research is to investigate whether one or more pre-existing conditions have possibly caused subsequent differences in the groups of subjects. Because the condition

of under- or overachievement (as defined in the present study) had already occurred by the end of the student's freshman year, the ex-post facto design was most appropriate.

Data on the subjects, originally collected by University College and the Office of Admissions and Records at time of application for admission and at the end of each semester, were obtained from the Student Master File maintained at Merrick Computing Center at the University of Oklahoma. After identifying under- and overachieving groups of freshmen according to statistical regression procedures, the groups were compared on various background characteristics to determine if differences existed between the groups.

Population

The population for this study consisted of all first-time (those with less than six hours of previous college credit) freshman students who were enrolled at the University of Oklahoma for the academic years of 1981, 1982, 1983 and 1984, and who were considered full-time students for their freshman year -- those who had attempted at least a total of twenty-four hours. Part-time students were eliminated from this study since the criterion of GPA would most likely be higher for those taking only one or two courses as opposed to students enrolled full-time, thus contributing to error variance between the groups identified as under- and over-achievers and decreasing the validity of the prediction equation (multiple regression).

Subjects

The subjects for this study were derived from the population of 9262 freshmen according to whether or not they had completed a survey developed for new students at the University of Oklahoma. In considering questionnaire or survey response rate, Rummel states that the representativeness of the number of returns is more important than the percentage of returns.[1] The 6975 (75%) full-time freshmen who responded to the survey were representative of the total population according to sex, age, origin, state residency status, and campus residency. This distribution is given in Table 1.

TABLE 1

DISTRIBUTION OF POPULATION AND SUBJECTS

Variable	Population		Subjects	
	N	%	N	%
Male	4955	54%	3814	55%
Female	4307	46%	3161	45%
18 yrs. or under	6806	72%	5069	71%
Over 18 yrs	2456	28%	1906	29%
Non-minority	8249	89%	6206	89%
Minority	1013	11%	769	11%
In-state residence	7305	79%	5370	77%
Out-of-state residence	1957	21%	1605	23%
Live on campus fr. yr.	5863	63%	4324	62%
Live off campus fr. yr.	3399	37%	2651	38%

[1] J. F. Rummel, An Introduction to Research Procedures in Education (New York: Harper Bros., 1958), p. 109.

As substantiated in the review of the literature, the most common variables used in predicting achievement are a student's high school record and scholastic aptitude tests, such as the ACT.[1] The following background predictor variables taken from the study population were entered into a stepwise regression equation: English ACT subtest score, Math ACT subtest score, Social Studies ACT subtest score, Natural Science ACT subtest score, Composite ACT subtest score, and high school grade point average. Using those predictors yielding the largest beta weights as the independent variables and the cumulative first-year grade point average of the students as the criterion, a multiple regression equation was then used to predict each student's freshman GPA. Multiple regression is a method of analyzing the separate and collective contributions of these variables as they relate to the criterion. Further, this statistic explains the variance within the criterion (CUMGPA) by estimating the contributions to this variance of the two or more independent variables. The results of multiple regression analysis fit well into a prediction framework, since prediction is a form of scientific investigation, consisting of specifying relationships between variables.[2]

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[1]Lavin, p. 57-59.

[2]Fred N. Kerlinger and Elazar J. Pedhazur, Multiple Regression in Behavioral Research (New York: Holt, Rinehart and Winston, Inc., 1973), p. 4.

The object of multiple regression is to build the equation $y = B_1X_1 + B_2X_2 \ldots$ where "y" is the criterion, "X"s are the predictor variables, and "B" are the beta weights whose sizes determine the relative importance of the predictor variables. In the present study, "y" represents CUMGPA, "X" represents high school GPA and ACT subtest scores, and "B" are the weights obtained from the multiple regression procedure. Where single correlation coefficients indicate each variable's impact on the criterion independently, the multiple regression procedure yields coefficients for multiple correlations, indicating each variable's impact on the criterion relative to the other independent variables designated as components of the equation. The square of the multiple correlation (R^2) represents the percentage of variation in the criterion shared by the variables.

While the possibility for inclusion into the multiple regression equation existed for each of the six independent variables, only those variables which resulted in the largest R^2 were used. The stepwise method of multiple regression for selecting variables was used in this study. This procedure takes each variable one by one and inserts it into the model, selecting only those variables which result in the largest multiple regression coefficient (R^2). The model producing the best multiple correlation, an R^2=.294, used four variables, English score, natural science score, composite score, and high school GPA, to explain the variance within

the criterion, CUMGPA. The statistical summary of the stepwise multiple regression is found in Table 2.

TABLE 2

ACADEMIC VARIABLES EXPLAINING VARIANCE IN FRESHMAN YEAR GPA USED IN THE STEPWISE MULTIPLE REGRESSION

Variable Entered	R^2	Beta Weight	Standard Error of Est.	Prob.
HSGPA	.225	35.46	.80	.0001
Intercept		48.45		
HSGPA	.285	26.95	.85	.0001
Composite ACT		4.00	.17	.0001
Intercept		15.09		
HSGPA	.291	26.17	.85	.0001
Composite ACT		2.49	.26	.0001
English ACT		2.09	.27	.0001
Intercept		9.28		
HSGPA	.294*	25.87	.85	.0001
Composite ACT		4.22	.44	.0001
English ACT		1.67	.29	.0001
Natural Sci. ACT		-1.43	.29	.0001
Intercept		16.40		

* The model producing the largest R^2

When the remaining variables, Social Studies ACT and Math ACT, were added to the model, the probability of error was raised above the .05 level.

Derived from the four-variable model of stepwise multiple regression, the predictor variables and their beta weights (HSGPA, 25.87; Composite ACT, 4.22; English ACT, 1.67; and Natural Science ACT, -1.43) and the intercept value of 16.40 were inserted into the regression equation used to

predict each student's freshman year GPA. The equation appeared thusly:

Predicted GPA = Intercept + (25.87 * HSGPA) + (4.22 * Composite) + (1.67 * English) - (1.43 * Nat. Science)

With the statistics available for predicting each student's freshman GPA, students could then be grouped according to their under- or overachieving status by subtracting their predicted GPA from their actual GPA (CUMGPA). One standard error of the estimate (SEE) in either direction allowed for error variance inherent in the multiple regression procedure, as well as provided group selectivity by decreasing the range of scores which categorized students as either underachievers or overachievers. The use of a smaller SEE would have resulted in abnormally large samples of under- and overachievers.

Adding the SEE values for the four-variable model to the variable values resulted in the equation representing the upper parameter or +1.00 SEE of the prediction:

Predicted GPA = Intercept + (26.72 * HSGPA) + (4.66 * Composite) + (1.96 * English) - (1.14 * Nat. Sci.)

Conversely, subtracting the SEE values from the variable values resulted in the equation representing the lower parameter or -1.00 SEE of the prediction:

Predicted GPA = Intercept + (25.02 * HSGPA) + (3.78 * Composite) + (1.38 * English) - (1.72 * Nat. Sci.)

Using the above regression equations, the mean freshman year GPA predicted for the entire population of 9262 freshmen

was 2.62. Taking the ±1.00 SEE values into consideration, the "average" achieving freshman mean fell between 2.35 and 2.89 -- a range of .54, or .27 above and below the mean.

Similarly, the predicted GPA for each of the 6975 subjects was computed and subtracted from his/her actual CUMGPA. Those freshmen with GPA differences less than -1.00 SEE were categorized as underachievers and those freshmen with GPA differences greater than +1.00 SEE were categorized as overachievers. The distribution of subjects according to the achievement category is found in Table 3.

TABLE 3

DISTRIBUTION OF UNDER- AND OVERACHIEVERS AMONG SUBJECTS

	N	%
Underachievers	3208	46%
Overachievers	1953	28%
Average Achievers	1814	26%
TOTAL	6975	100%

The distribution of subjects was positively skewed, with the largest percentage of freshmen falling within the underachiever category and the smallest percentage falling within the "average" category. Table 3 shows the percentage of subjects found in all three categories, including average achievers, only for the sake of clarity; yet, as delineated

in Chapter I's Statement of the Problem, only background data from the groups of under- and overachievers were compared in this study, thereby isolating those variables which differentiated between the two groups.

Instrument

The primary instrument used to solicit the student background information was the "New Student Survey," a questionnaire developed by the University of Oklahoma Office of Student Affairs Research (Appendix A). The survey was administered to all new students on a volunteer basis during their initial enrollment. Because the survey is based on student self-reports and does not measure anything in itself, because the nature of the items does not appear to be such as to invite falsifying, and because the instrument has been administered and refined over a ten-year period, the survey is assumed to represent a reasonably accurate descriptive summary of the freshman classes of 1981 through 1984. Moreover, the large sample size should negate any potential contamination which may result from the subjective nature of the responses and lack of control over the administration of the instrument. While inherent weaknesses in the reliability of the New Student Survey were recognized, implementation of an alternative instrument to former freshman classes would be impossible.

Since the intent of this study was descriptive rather than experimental in nature, the existing New Student Survey

database best met the needs of the present research for several reasons. First, the instrument was specifically developed to provide a wide variety of academic, demographic and personal information about University of Oklahoma students which no existing instrument contains. Second, the New Student Survey is administered in a controlled environment, assuring a much higher return rate than would be possible by using the mail service, thus, enhancing both the reliability and validity of results. Third, the New Student Survey database allows for possible longitudinal research, facilitating replication with future freshman classes. Finally, the Survey data may be merged with the University Student Master File database in order to obtain a more accurate and complete picture of each student.

The "New Student Survey" contains seventy-two items divided among four sections: background information, reasons for choosing the University of Oklahoma, student goals and needs, and personal, social and political attitudes. On some items, the respondent is requested to circle his/her choice, whereas on others, a Likert-type response (a four-point agree/disagree continuum or a five-point important/unimportant continuum) is employed.

Variables

There are three broad areas of student background data identified in the literature which have been used either to describe students or predict their performance; these include

academic, demographic and personal characteristics. This study compared sixty-nine characteristics, or variables, of underachievers and overachievers among these three areas to ascertain discriminating features common to either group.

Academic Data

A cursory examination of high school academic backgrounds provides insight as to the quality of academic performance expected from students their freshman year. However, it is precisely those students who do not perform as predicted from their prior performance that places them in the under- or overachieving categories. In order to determine whether students were average, under- or overachievers, both high school academic performance and first-year college performance were analyzed. After the groups of underachievers and overachievers were obtained according to the multiple regression procedures previously detailed, academic data of the two groups were compared for statistical differences by analysis of variance. The academic data consisted of students' high school grade point averages, ACT subtest and composite scores, cumulative freshman year grade point average, and number of hours earned their freshman year.

Demographic Data

The demographic approach to students' backgrounds involves the relationship of those with whom the student has been associated (family), and other factors over which the

student has had no control. Except for the variable "attendance at the University of Oklahoma by another family member," the demographic variables selected for this study were taken from social research studies found in the literature and included age, sex, ethnic origin, size of hometown, state of residence, father's and mother's educational level, parent's income, and University of Oklahoma attendance by another family member. Analysis of variance was performed on these variables to determine if a relationship existed between demographic data and under-/overachievement which distinguished between the two groups.

Personal Data

Though not quantitative in nature, personal data contribute a wide variety of information about students useful to this study. Personal data identified in prior research may be grouped into the following categories: goals and needs, attitudes toward college, attitudes toward social issues, and reasons for selecting a particular university (such as the University of Oklahoma). Personal data in the context of this study were useful in providing an awareness of the emotional and social maturity of incoming freshmen for the years studied. The New Student Survey provided personal data through the responses of the groups of under- and overachievers which were compared by analysis of variance. The specific items from each category that were used in the present study follow.

For the category "Reasons for Choosing the University of Oklahoma," students were asked to rate on a four-point Likert scale each of the following items for its importance to them in selecting the University: close to home, far from home, good program in major, parent's wishes, recruitment materials, advice from friends or former students, offered financial aid, and to prepare for graduate or professional school.

The second category of personal data included "Student Goals and Needs," where students either circled their response or indicated a Likert-type continuum response for the following items: financial concerns for college; degree expectations; expectations to pledge fraternity/sorority; campus residence; employment during freshman year; sureness of academic major, of vocational plans, of understanding one's self, of understanding society, and of one's interaction with others; preparedness to write compositions, to speak effectively, to write research papers, in reading comprehension, in vocabulary usage, and in algebraic computations.

A third category of personal data was concerned with "Attitudes toward the Potential Benefits of College." Again, students were asked to rate the importance of each of the following potential benefits of college: developing a sense of personal identity, social interaction skills, tolerance to others, a background for lifelong learning, job skills, interests in possible vocations, open-mindedness, intellectual

curiosity, problem-solving abilities, a sense of order related to knowledge, and an awareness of other cultures; understanding social issues more fully; becoming a more effective communicator; gaining a better appreciation of ethical/moral standards, of the sciences, of the humanities, of the fine arts, and of the social sciences.

A fourth category of personal data which was analyzed in this study concerned students' "Attitudes toward Selected Issues." The students rated each of the following issues on a five-point continuum: favor legalization of marijuana; believe organized religion is losing importance; believe religion is losing importance for one's self; accept living together as an alternative to marriage; believe married women's activities are best confined to the home and family; favor parent's lifestyle for one's self; believe high school grading is too easy; have liberal political attitudes; share parents' political attitudes; and consume alcoholic beverages.

Analysis of the Data

In order to determine if there were significant differences between the groups of under- and overachievers, a one-way analysis of variance was performed between the mean scores of each of the variables for the two groups of freshmen. ANOVA is one of several inferential statistics with the aim of determining probability, or the degree of confidence in prediction. The purpose of ANOVA in the present study is to determine the probability of differences between each of

the variable means of the groups of under- and overachievers. Although other inferential statistics such as the independent samples t-test, dependent samples t-test, and analysis of covariance, are also used to compare group means, ANOVA is the proper statistical procedure to use when testing a single independent variable with a large (greater than fifty) sample.

A one-way ANOVA is used to compare two or more sample means [in this study, two means] on one independent variable. The procedure uses the mean variances of the groups to calculate a value (F ratio) that reflects the degree of difference in the "between group" variance and the "within group" variance. The F ratio is then compared to a theoretical F distribution (critical F). If there are no differences in means, the F ratio will follow the critical F and the null hypothesis (of no differences between groups) would be accepted; if differences do exist, the F ratio will be larger than the critical F and the null hypothesis would be rejected.[1] The .05 level of probability, meaning that there is only a 5% chance of error when rejecting the null, is used in all ANOVAs in this study.

The results of the analysis of variance are presented in both tabular and descriptive form for each of the sixty-nine variables within its respective category -- academic, demographic, or personal characteristics. Tables are used to

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[1]Edward W. Minimum and Robert B. Clarke, Elements of Statistical Reasoning (New York: John Wiley, 1982), p. 320.

compare the means and standard deviations of the two groups' scores for each variable, as well as indicate the variables which have been determined statistically significant through analysis of variance. Brief descriptions of each variable, by category, emphasize those which are statistically significant by comparing percentages of responses by group.

The SAS statistical program within the University IBM 3081 mainframe was utilized to collect, compile, sort, and merge data from University of Oklahoma student files with New Student Survey data. In addition, the SAS program performed the analysis of variance procedure.

Reported in Chapter IV, an additional analysis was made between the subjects of this study and freshmen throughout the United States. Where an item from the present study corresponded with National Freshman Survey information from the Cooperative Institutional Research Program for the years 1981 through 1984, the findings, represented in percentages, were compared for any similarities or differences between University of Oklahoma freshmen and freshmen nationally.

Summary

Chapter III has described the four hypotheses tested in this study, as well as the ex-post facto research design for carrying out the study. The population of freshmen was defined and the multiple regression procedure for obtaining the under- and overachieving subjects was outlined in detail.

The instrument used in the study, the New Student

Survey, and its attendant variables were described along with the statistics used for determining statistically significant differences between the under- and overachieving freshmen. In addition, the procedure for reporting the results of the study which follow in Chapter IV was delineated.

CHAPTER IV

RESULTS

Academic, demographic, and personal background data of under- and overachieving groups of University of Oklahoma freshmen from the 1981 through 1984 freshman classes were analyzed for any distinguishing differences. The null hypotheses of the study that there would be no differences in the backgrounds of under- and overachieving freshmen were tested by one-way analysis of variance.

The portion of the chapter testing the study hypotheses is divided into three major sections corresponding with the three research objectives of the study in order to provide a clear presentation of the findings of the study. The chapter also includes comparative data regarding the representativeness of University of Oklahoma freshmen to freshmen nationally.

Research Objective I

The first research objective of the study was to compare academic performance data of the under- and overachievers. Two hypotheses relating to this objective were tested:

H_o1: There are no significant differences in the academic backgrounds of the groups of underachievers and overachievers.

H_o2: There is no significant difference in the freshman year academic performance of the groups of underachievers and overachievers.

The hypotheses were tested by analysis of variance, a procedure utilized to determine if significant differences existed between the groups' academic backgrounds, including high school GPAs and ACT scores. The HSGPA is based on a four-point scale, while the ACT scores range from one to thirty-six. The results are found in Table 4.

TABLE 4

ACADEMIC BACKGROUND MEANS OF UNDER- AND OVERACHIEVERS

Variable	Underachiever Mean N=3208	SD	Overachiever Mean N=1953	SD
HSGPA	2.80	1.00	2.72	1.07
English ACT	20.48	4.68	20.47	5.13
Math ACT	20.38	6.77	20.66	7.44
Social Studies ACT	20.80	6.37	20.70	6.98
Natural Science ACT	23.72	5.62	23.71	5.84
Composite ACT	21.48	4.89	21.52	5.43

A comparison of group means for each of the academic background variables in Table 4 reveals similar scores for both groups -- though slightly higher values for the underachievers on the HSGPA, English ACT, Social Studies ACT, and Natural Science ACT variables, and slightly higher scores for

the overachievers on the Math ACT and Composite ACT variables. Yet, however minute the differences in group means may appear, statistical analysis of the means is necessary to determine if the differences are statistically significant. The procedure used throughout this study for determining differences in means was one-way analysis of variance (ANOVA).

Table 5 presents a summary of the ANOVAs performed on the academic background variables. Of the six variables, only HSGPA proved statistically significant at the .05 level with the overachievers having slightly lower high school GPAs. Both groups had similar background scores on all four ACT subtests and composite scores. These findings show that past performance and ability as measured by the ACT scores of both under- and overachievers in the study population are very similar. However, the significance of the HSGPA indicates that some academic factors influence freshman year achievement since the overachievers had somewhat lower high school grades. This finding may suggest that either the overachieving freshmen did not perform to their abilities in high school and the underachievers did not perform to their abilities in college, or the overachievers motivated themselves beyond their natural capacity to perform well in college while the underachievers were more motivated in high school. However, the similarity in aptitudes as confirmed by the ACT implies the former.

TABLE 5

ANALYSIS OF VARIANCE FOR ACADEMIC BACKGROUND VARIABLES

Variable	Mean Square Between Groups N=3208	Mean Square Within Groups N=1953	F	p
HSGPA	23.91	1.08	22.11	.0001*
English ACT	0.04	23.69	0.00	.9656
Math ACT	113.86	49.67	2.29	.1301
Social Studies ACT	13.98	43.86	0.32	.5723
Nat. Science ACT	0.09	32.60	0.00	.9573
Composite ACT	2.19	26.18	0.08	.7724

* $p < .05$

In addition to analyzing the under- and overachieving freshmen's academic backgrounds, Research Objective I was concerned with freshman year academic performance -- namely, the groups' freshman year GPA (CUMGPA) and hours earned. Tables 6 and 7 summarize the means and ANOVAs, respectively, for the two academic performance variables.

Despite the similarities discovered in the groups' academic backgrounds which were discussed previously, the freshman year academic performance between the two groups varied greatly, as shown in Tables 6 and 7. There are both obvious and statistically significant differences in CUMGPA, with an underachieving group mean of 2.25 GPA and an over-achieving group mean of 3.28 GPA. Though not as great a

TABLE 6

ACADEMIC PERFORMANCE MEANS OF UNDER- AND OVERACHIEVERS

Variable	Underachiever Mean N=3208	SD	Overachiever Mean N=1953	SD
CUMGPA	2.25	0.78	3.28	0.48
Hours Earned	30.21	6.14	31.39	6.23

TABLE 7

ANALYSIS OF VARIANCE FOR ACADEMIC PERFORMANCE VARIABLES

Variable	Mean Square Between Groups N=3208	Mean Square Within Groups N=1953	F	p
CUMGPA	17842.38	1754.32	10.17	.0014*
Hours Earned	2214.93	38.05	58.21	.0001*

* $p < .05$

difference, but still statistically significant, are the mean number of credit hours earned by the groups; the underachievers earned 1.18 fewer hours with a mean of 30.21 hours as compared to the overachieving group mean of 31.39 hours.

Thus, with similarly predicted abilities according to the ACT, and with slightly lower HSGPAs, the overachieving group of freshmen not only performed superior to their counterparts but completed more credit hours as well.

Hypothesis No. 1

Regarding Research Objective I, Hypothesis No. 1 stated in null form: there are no significant differences in the academic backgrounds of the groups of under- and overachievers. The six variables of academic background data (HSGPA and ACT subtest scores) from the two groups were compared by analysis of variance. The variable HSGPA was shown to be statistically signficant, while the five variables relating to ACT scores were not. Thus, the null hypothesis of no differences between the groups was rejected, suggesting support for the alternative hypothesis; there was a difference between the academic backgrounds of the two groups.

Hypothesis No. 2

Hypothesis No. 2, also part of Research Objective I, stated in null form: there is no significant difference in the freshman year academic performance of the groups of under- and overachievers. The means of the two academic performance variables were compared by analysis of variance; significant differences were found in both variables, cumulative GPA and hours earned, resulting in the rejection of the null hypothesis and suggesting support for the alternative hypothesis; differences in the academic performance of the two groups did exist.

Research Objective II

The second research objective of the study was to analyze demographic background variables of the two groups.

The hypothesis relating to this objective tested was:

> H_o3: There are no significant differences in the demographic characteristics of the groups of underachievers and overachievers.

The investigation of students' demographic backgrounds included those variables over which the student had no direct control such as the student's age, sex, minority status, size of hometown, state residency, father's and mother's educational level, parents' income level, and University of Oklahoma attendance by another family member. These data were derived from both the New Student Survey and the university student master file. Non-quantitative variables were quantified by providing a numerical designation for the responses. Hypothesis No. 3 was tested by analysis of variance where the mean scores for each variable were analyzed to determine if statistically significant differences existed between the groups. The means for each of the demographic variables for the groups of under- and overachievers are provided in Table 8 and the summary of ANOVAs, testing for significant differences, in Table 9.

Of the nine variables, only two failed to discriminate between under- and overachievers -- minority status and parents' income level. A closer analysis of each variable, interpreting the means with the help of percentages when appropriate, helps clarify the differences.

Age. The mean age of the underachievers, eighteen years and six months, was slightly higher than the overachievers,

TABLE 8

COMPARISON OF UNDER- AND OVERACHIEVER MEANS FOR NINE DEMOGRAPHIC VARIABLES

Variable *	Under-Achiever Mean N=3208	SD	Over-Achiever Mean N=1953	SD
Age	18.50	1.79	18.31	.84
Sex	1.42	.49	1.51	.50
Minority Status	1.11	.32	1.10	.30
Hometown Size	3.52	1.32	3.65	1.26
State Residency	1.28	.45	1.15	.36
Father's Ed. Level	3.48	1.20	3.66	1.17
Mother's Ed. Level	2.96	1.03	3.11	1.03
Parents' Income	1.55	.82	1.54	.82
Family's Attendance at OU	1.60	.49	1.52	.50

*Explanation of Means: for each of the demographic variables except for "age," the means represent the response number.

Father's ed and Mother's ed: (1) no h.s. diploma (2) h.s. only (3) some college (4) bachelor's (5) advanced degree

Minority: (1) Cauc. (2) Minor.

Family OU: (1) yes (2) no

Parents' income: (1) above $30,000 (2) $20-30,000 (3) $10-20,000 (4) below $10,000 (5) no idea

Sex: (1) male (2) female

Res.: (1) in-state (2) out-st.

Hometown size: (1) under 2500 (2) 2500 - 9999 (3) 10,000 - 49,999 (4) 50,000 - 100,000 (5) Over 100,000

TABLE 9

ANALYSIS OF VARIANCE FOR NINE DEMOGRAPHIC VARIABLES

Variable	Mean Square Between Groups N=3208	Mean Square Within Groups N=1953	F	p
Age	54.62	2.34	23.34	.0001*
Sex	10.46	0.25	42.44	.0001*
Minority Status	0.24	0.10	2.50	.1141
Hometown Size	15.79	1.68	9.38	.0022*
State Residency	25.26	0.18	142.96	.0001*
Father's Ed. Level	29.63	1.42	20.91	.0001*
Mother's Ed. Level	18.35	1.06	17.25	.0001*
Parents' Income	0.14	0.68	0.20	.6541
Family Attend OU	5.64	0.24	23.16	.0001*

* $p < .05$

whose mean age was eighteen years and three months.

Sex. More males belonged to the underachieving group. The underachievers were 58% male and 42% female, while the overachievers were 49% male and 51% female.

Minority Status. Both groups were similar, consisting of 89% non-minority membership and 11% minority membership.

Hometown Size. The underachievers were more likely to come from larger cities than the overachievers. Thirty-four percent of the underachieving group hailed from cities with populations greater than 100,000, compared to 38% for the overachievers. Conversely, 24% of the underachievers came from towns with less than 10,000 population as compared to 19% of the overachievers.

State Residency. The underachieving group had a larger out-of-state representation with 23% of its freshmen having their residency outside Oklahoma, compared to only 15% for the overachieving group.

Father's Educational Level. The fathers of underachievers had a lower educational background than did the fathers of overachievers. Only 52% of the underachievers' fathers had college degrees as compared to 61% of the overachievers.

Mother's Educational Level. Though not as large a discrepancy as with the fathers' educational level, only 29% of the underachievers' mothers had college degrees in comparison with 34% of the overachievers.

Parents' Income. Both groups came from families with

similar economic backgrounds with a mean annual income of approximately $30,000.

Family's Attendance at the University of Oklahoma. For the underachieving group, 40% had immediate family (parents or siblings) who had attended OU, compared to 48% of the overachievers.

Summary of Demographic Variables

A summary of the demographic data showed that the underachieving group was slightly older, more male, came from smaller towns, had a higher representation from outside Oklahoma, had less educated fathers and mothers, and had fewer family members who attended the University of Oklahoma. Conversely, the overachievers were slightly younger, more female, came from larger towns, had a larger representation of Oklahoma residents, had more educated fathers and mothers, and had more family members who attended the University of Oklahoma. Both groups had equal representations of minority students and both groups came from families with similar economic backgrounds.

Hypothesis No. 3

Corresponding with Research Objective II, Hypothesis No. 3 stated in the null form: there are no significant differences in the demographic characteristics of the groups of under- and overachievers. The nine demographic variables from the two groups were compared by analysis of variance.

All the variables except for minority status and parents' income were shown to discriminate between the two groups, thus, the null hypothesis of no differences was rejected suggesting that demographic differences were observed in the backgrounds of the two groups.

Research Objective III

The third research objective of the study was to analyze personal characteristics of the two groups. One hypothesis related to this objective was tested:

> H_o4: There are no significant differences in the personal background characteristics of the groups of underachievers and overachievers.

Personal characteristics drawn from previous social and educational research which were analyzed in this study included data relating to students' goals and needs, attitudes toward college, attitudes toward social issues, and reasons for choosing the University of Oklahoma. These data were derived from the New Student Survey. The means for each of the fifty-two variables in these categories were based on a Likert continuum -- either a four-point agree/disagree scale or a five-point important/unimportant scale. The means were compared for statistical significance by analysis of variance. The tables of means and ANOVAs are presented and discussed by category.

Personal Characteristics: Goals and Needs

The group means for the "Goals and Needs" category are provided in Table 10, and the summary of ANOVAs, testing for significant differences, are shown in Table 11. For these items, students were asked to numerically indicate the importance of each variable. For the "goals" items, "1" represented "strongly agree" and "4" denoted "strongly disagree." For the "needs" items, "1" suggested "very well prepared" and "4" indicated "very poorly prepared." Of the sixteen "Goals and Needs" variables, eight revealed significant differences between the two groups -- campus residence, work during the freshman year, sureness of academic major, sureness of vocational plans, sureness in understanding society, preparedness in writing compositions, preparedness in reading comprehension, and preparedness in vocabulary usage. Conversely, there were no differences in the remaining eight variables -- degree expectations, financial concerns, expectation to pledge a Greek organization, sureness in understanding one's self, sureness of interaction with others, preparedness in speaking effectively, preparedness in writing research papers, and preparedness in algebraic computations. An individual examiniation of each variable helps explain the differences, or lack thereof.

Degree Expectations. When asked their degree expectations, both groups responded similarly -- 1% expected only to take courses without pursuing a degree; 56% planned

TABLE 10

COMPARISON OF UNDER- AND OVERACHIEVER MEANS FOR SIXTEEN SELF-REPORTED GOALS AND NEEDS

Variable	Under-Achiever Mean N=3208	SD	Over-Achiever Mean N=1953	SD
Degree Expectations	2.42	.52	2.43	.51
Financial Concerns	1.60	.66	1.61	.64
Expect to Pledge	1.48	.50	1.49	.50
Campus Residence	1.40	.49	1.33	.47
Work During Fr. Yr.	1.58	.78	1.44	.71
Sureness of:				
Academic Major	2.07	.83	2.17	.84
Vocational Plans	2.27	.81	2.37	.81
Understanding Self	1.68	.63	1.69	.63
Understanding Society	1.92	.66	1.96	.67
Interaction with Others	1.58	.55	1.61	.56
Preparedness in:				
Writing Compositions	1.82	.63	1.78	.63
Speaking Effectively	1.71	.63	1.70	.65
Writing Research Papers	1.93	.67	1.89	.65
Reading Comprehension	1.63	.64	1.68	.67
Vocabulary Usage	1.75	.62	1.79	.65
Algebraic Computations	1.94	.89	1.93	.91

TABLE 11

ANALYSIS OF VARIANCE FOR SIXTEEN SELF-REPORTED GOALS AND NEEDS

Variable	Mean Square Between Groups N=3208	Mean Square Within Groups N=1953	F	p
Degree Expectations	0.07	0.26	0.28	.5979
Financial Concerns	0.02	0.42	0.04	.8483
Expect to Pledge	0.04	0.25	0.14	.7035
Campus Residence	2.46	0.50	4.96	.0261*
Work During Fr. Yr.	17.73	0.57	31.22	.0001*
Sureness of:				
Academic Major	8.07	0.70	11.60	.0007*
Vocational Plans	7.63	0.66	11.52	.0007*
Understanding Self	0.07	0.40	0.18	.6700
Understanding Society	2.00	0.44	4.56	.0329*
Interaction with Others	0.70	0.31	2.25	.1340
Preparedness in:				
Writing Compositions	1.81	0.39	4.58	.0324*
Speaking Effectively	0.01	0.41	0.02	.8792
Writing Research Papers	1.43	0.44	3.25	.0713
Reading Comprehension	2.16	0.42	5.16	.0231*
Vocabulary Usage	1.90	0.40	4.79	.0286*
Algebraic Computations	0.09	0.81	0.12	.7342

* $p < .05$

to acquire only the bachelor's degree; and 43% planned to pursue graduate study.

Financial Concerns for College. Again, both groups shared similar concerns for financing their education; 49% expressed no concern, 41% were somewhat concerned, and 10% were very concerned about their lack of financial resources.

Expectation to Pledge a Fraternity/Sorority. Both the under- and overachievers professed similar intent to pledge; the majority of both groups, 52%, expressed the desire to pledge, while 48% were uncertain at the time or had no plans for pledging.

Campus Residence. While the majority of all freshmen planned to live on-campus their first year, only 60% of the underachieving freshmen intended to live in campus housing (dormitory or Greek), compared to 67% of the overachievers.

Work During the Freshman Year. This variable also discriminated between the groups, with more underachievers, 42%, planning to work during college than their counterparts, 33%.

Sureness of Academic Major. Of the underachievers, 70% seemed sure of their choice of major as compared to 67% of the overachievers -- a discrepancy revealed to be significant by the analysis of variance.

Sureness of Vocational Plans. Similarly, 61% of the underachievers felt sure of their vocational plans in comparison with 57% of the overachievers.

Sureness of Understanding One's Self. Ninety-two

percent of both groups of freshmen felt that they were sure of the understanding of themselves.

Sureness of Understanding Society. More underachievers, 85%, contended they were sure of their understanding of society as compared to 82% of the overachievers, revealing another statistically significant difference.

Sureness of Interaction with Others. Almost all members, 97%, of both groups expressed equal assurance in their interactions with others.

Writing Compositions. The underachieving freshmen felt a little less prepared to write compositions, as 89% expressed their preparedness as compared to 91% of the overachieving freshmen.

Speaking Effectively. Ninety-one percent of both groups felt similar degrees of preparedness in speaking, resulting in no significant difference.

Writing Research Papers. Where a difference between groups was found in the "writing compositions" variable, both groups indicated similar degrees of preparedness in writing research papers for no significant difference.

Reading Comprehension. Strangely, only 90% of the overachievers felt confident of their ability to comprehend reading materials, compared to 93% of the underachievers -- another significant difference.

Vocabulary Usage. As with the preceding variable, fewer overachievers (90%) felt that their vocabulary was adequate

as compared to 92% of the underachievers.

Algebraic Computations. On a whole, both groups were similarly concerned with their algebraic abilities as 77% of the freshmen felt prepared in this area.

A summary of the "Goals and Needs" category of personal background characteristics showed the two groups to have similar goals for their degree expectations, for financing their college education, and for pledging a Greek organization. However, their goals for living on campus and for working while attending college differed; fewer overachievers than underachievers planned to work at a job during school, while more overachievers planned a campus residence their freshman year.

As far as they perceived their needs, both groups shared an adequate understanding of themselves and their interaction with others and felt they possessed adequate speaking, researching, and mathematical (algebraic) abilities. Yet, the underachieving group expressed more sureness of their intended academic major and vocational plans than did the overachieving group. Also, a greater percentage of underachievers than overachievers felt that they understood society. Where the overachievers expressed a higher level of preparedness in writing compositions, the underachievers indicated a greater degree of preparedness in reading comprehension and vocabulary usage.

Personal Characteristics: Attitudes toward the Potential Benefits of College

The group means for the "Attitudes toward the Potential Benefits of College" category are provided in Table 12, and the summary of ANOVAs, testing for significant differences, is shown in Table 13. These items were based on a four-point continuum ranging from (1) "extremely important" to (4) "totally unimportant." Of the eighteen "Attitudes toward the Potential Benefits of College" variables, nine discriminated between under- and overachievers -- the importance of developing a sense of personal identity, social interaction skills, tolerance toward others, vocational interests, open-mindedness, an awareness of other cultures, a greater understanding of social issues, better communication skills, and a greater understanding of the sciences. Conversely, there were no significant differences in the remaining nine variables -- the importance of developing a background for lifelong learning, job skills, intellectual curiosity, problem-solving abilities, a sense of order relating to the world of knowledge, an appreciation of ethical and moral standards, and a greater understanding of the humanities, fine arts, and social sciences. Interestingly, the over-achieving group placed more importance on eight of the nine statistically significant variables than did the underachieving group. A closer analysis of each variable, considering percentages of group responses, helps clarify these findings.

TABLE 12

COMPARISON OF UNDER- AND OVERACHIEVER MEANS FOR EIGHTEEN SELF-REPORTED ATTITUDES TOWARD POTENTIAL BENEFITS OF COLLEGE

Variable	Under-Achiever Mean N=3208	SD	Over-Achiever Mean N=1953	SD
Development of:				
Personal Identity	1.82	.71	1.75	.69
Soc. Interaction Skills	1.85	.66	1.80	.66
Tolerance to Others	2.08	.77	2.02	.78
Background for Lifelong Learning	1.43	.59	1.41	.58
Job Skills	1.25	.49	1.24	.48
Vocational Interests	1.67	.74	1.62	.72
Open-mindedness	1.93	.69	1.88	.67
Intellectual Curiosity	1.82	.67	1.78	.66
Prob-Solving Abilities	1.59	.63	1.60	.64
Sense of Order	1.79	.66	1.78	.64
Awareness of Cultures	2.27	.77	2.22	.78
Understand Soc. Issues	1.86	.67	1.78	.67
Communications Skills	1.71	.64	1.66	.65
Ethical/Moral Standards	2.15	.76	2.12	.77
Undstdg of Sciences	1.98	.85	2.08	.86
Undstdg of Humanities	2.09	.75	2.10	.73
Undstdg of Fine Arts	2.29	.82	2.25	.86
Undstdg of Social Sci.	2.09	.74	2.11	.73

TABLE 13

ANALYSIS OF VARIANCE FOR BENEFITS OF COLLEGE VARIABLES

Variable	Mean Square Between Groups N=3208	Mean Square Within Groups N=1953	F	p
Development of:				
Personal Identity	4.33	0.50	8.69	.0032*
Soc. Interaction Skills	1.86	0.43	4.30	.0382*
Tolerance to Others	3.42	0.60	5.69	.0171*
Background for Lifelong Learning	0.49	0.34	1.43	.2316
Job Skills	0.04	0.24	0.17	.6822
Vocational Interests	2.44	0.54	4.52	.0335*
Open-mindedness	2.23	0.47	4.76	.0292*
Intellectual Curiosity	0.82	0.44	1.85	.1738
Prob-Solving Abilities	0.09	0.40	0.23	.6280
Sense of Order	0.11	0.43	0.25	.6154
Awareness of Cultures	2.65	0.60	4.43	.0353*
Understand Soc. Issues	4.55	0.45	10.02	.0016*
Communications Skills	2.09	0.42	4.97	.0259*
Ethical/Moral Standards	0.42	0.59	0.72	.3951
Undstdg of the Sciences	8.89	0.73	12.19	.0005*
Undstdg of Humanities	0.02	0.55	0.04	.8449
Undstdg of Fine Arts	1.17	0.70	1.67	.1959
Undstdg of Social Sci.	0.31	0.54	0.56	.4531

* $p < .05$

Developing a Sense of Personal Identity. The first of the nine significant differences in this category, this variable was important to 86% of the overachievers as compared to 84% of the underachievers.

Developing Social Interaction Skills. Ninety percent of the overachievers felt interaction skills were an important benefit of college, compared to 87% of the underachievers, reflecting a significant difference between the groups.

Developing Tolerance of Others. Seventy-six percent of the overachieving freshmen, compared to 74% of the underachieving group, thought that developing tolerance of others was beneficial -- still another statistically significant difference between the groups.

Developing a Background for Lifelong Learning. Both groups held this variable in high regard -- 97% of all respondents placed importance in this benefit of a college education.

Developing Job Skills. Perhaps indicative of the popular point of view, 98% of both under- and overachievers confirmed their belief that learning job skills is a necessary part of the college experience.

Developing Interests which could lead to Vocational Possibilities. Ninety percent of the overachievers, contrasted with 88% of the underachievers, felt that developing vocational interests was important, registering another significant difference.

Developing Open-mindedness. The overachievers (85%) emphasized the benefit of becoming more open-minded, compared to 83% of the underachievers, resulting in another significant difference.

Developing Intellectual Curiosity. Eighty-seven percent of both groups felt that developing intellectual curiosity should be a goal in their education.

Developing Problem-Solving Abilities. There were no signficant differences between the two groups on this variable, with 93% of both groups placing importance in developing problem-solving abilities.

Developing a Sense of Order Related to the World of Knowledge. No differences were found between the groups, 89% of whom valued this benefit of a college education.

Developing an Awareness of Other Cultures. Sixty-five percent of the overachieving freshmen endorsed the importance of an awareness of cultures, compared to 62% of the underachievers -- another significant difference between the groups.

Developing an Understanding of Social Issues and Problems. Of the overachieving group, 88% favored learning more about social issues and problems compared to 85% of their counterparts -- one more statistically significant variable.

Developing More Effective Communication Skills. A larger percentage of overachievers (94%) favored the development of communication skills in their college experience,

compared to 91% of the underachievers, resulting in statistically significant differences between the groups.

Developing an Understanding of Moral and Ethical Standards. Seventy percent of both groups were interested in refining their understanding of moral and ethical issues.

Developing an Understanding of the Nature of Science. The only variable chosen as an important benefit of college by more underachievers (73%) than overachievers (69%) was developing an understanding of science -- the final discriminating item among this category.

Developing an Understanding of the Nature of the Humanities. Seventy-three percent of both groups selected this variable as an important benefit of a college education.

Developing an Understanding of the Nature of the Fine Arts. An understanding of the fine arts was felt to be crucial by 60% of both under- and overachievers; this item was chosen as the least important potential benefit of college.

Developing an Understanding of the Nature of the Social Sciences. Seventy-three percent of both groups felt that developing their understanding of the social sciences was important.

A summary of the "Attitudes toward the Potential Benefits of a College Education" category of personal characteristics indicated that both the under- and overachievers shared their views on nine of the eighteen benefits expected

to be gained from the college experience -- developing a background for lifelong learning, job skills, intellectual curiosity, problem-solving abilities, a sense of order related to the world of knowlege, and a greater understanding of ethical/moral standards, the humanities, the fine arts, and the social sciences. On all but one of the following nine remaining benefits -- the lone exception being developing an understanding of the sciences -- the overachievers placed a greater importance than did their underachieving cohorts: the development of a sense of personal identity, social interaction skills, tolerance of others, vocational interests, open-mindedness, an awareness of other cultures, an understanding of social issues, and communication skills. A larger percentage of underachievers placed importance in understanding the sciences more fully.

Personal Characteristics: Attitudes toward Selected Issues

A third category of personal background characteristics was "Attitudes toward Selected Issues," the means of which are provided in Table 14 and the summary of ANOVAs in Table 15. For these items, the students were asked to respond on a five-point continuum with "1" representing "strongly agree" and "5" denoting "strongly disagree."

These ten variables are unique in two ways. First, the variables are the only items on the Survey based on a five-point scale with a "mixed feelings" category in the middle -- thus, the larger means. Second, some items discriminate

TABLE 14

COMPARISON OF UNDER- AND OVERACHIEVER MEANS FOR TEN ATTITUDES TOWARD SELECTED ISSUES

Variable	Under-Achiever Mean N=3208	SD	Over-Achiever Mean N=1953	SD
Favor the legalization of marijuana	4.06	1.13	4.18	1.07
Believe religion is losing its importance in general	3.40	1.16	3.47	1.18
Believe religion is losing its importance to self	3.70	1.27	3.83	1.27
Living together as alternative to marriage OK	3.42	1.27	3.64	1.24
Married women best confined to home	3.77	1.28	3.90	1.28
Parent's life OK for self	2.77	1.27	2.77	1.29
H.S. grades too easy	2.75	1.10	2.77	1.12
Politically liberal	3.01	0.86	3.06	0.90
Share parent's politics	1.78	1.06	1.75	1.08
Consume alcohol	2.56	1.47	2.29	1.43

TABLE 15

ANALYSIS OF VARIANCE FOR ATTITUDES TOWARD SELECTED ISSUES

Variable	Mean Square Between Groups N=3208	Mean Square Within Groups N=1953	F	p
Favor the legalization of marijuana	13.15	1.22	10.74	.0011*
Believe religion is losing its importance in general	4.60	1.36	3.38	.0661
Believe religion is losing its importance to self	13.49	1.61	8.38	.0038*
Living together as alternative to marriage OK	41.09	1.59	25.91	.0001*
Married women best confined to home	14.08	1.65	8.55	.0035*
Parent's life OK for self	0.00	1.64	0.00	.9742
H.S. grades too easy	0.17	1.22	0.14	.7070
Political stance	1.70	0.77	2.21	.1376
Share parent's politics	0.70	1.13	0.62	.4315
Consume alcohol	58.27	2.13	27.42	.0001*

* $p < .05$

between groups even though both groups may " disagree" with the item; the fact remains that one group may disagree to a wider extent than the other.

Of the ten variables dealing with students' attitudes toward selected issues, the following five revealed statistically significant differences: the legalization of marijuana, the deemphasis of religion for the individual, living together outside of marriage, the activities of married women, and alcohol consumption. The five items to which both groups responded similarly included the issues of religion in general losing its importance, living the lifestyle of one's parents, high school grading, personal political beliefs, and sharing parents' political stances. A closer investigation of these ten variables revealed interesting results.

Favor the legalization of marijuana. While the general consensus of all the subjects was to disagree with this issue, a significant difference was found between the two groups with 92% of the overachievers opposed to the legalization of marijuana compared to 87% of the underachievers.

Believe organized religion is losing its importance in general. Again, the overall consensus was to disagree with this statement. Approximately 78% of both groups had mixed feelings or disagreed that religion is losing its importance.

Believe religion is losing its importance personally. A significant difference was revealed in this item with 19% of the underachievers agreeing and 17% of the overachievers

agreeing. Likewise, only 37% of the underachievers strongly disagreed as compared to 43% of the overachievers.

Believe that living together outside of marriage is an acceptable alternative. Though both groups had mixed feelings on this topic, more underachievers (26%) favored the "living together" concept than did the overachievers (21%), resulting in another discriminating variable.

Believe that married women's activities are best confined to the home. Both groups' feelings tended to disagree on this item, as 81% of the underachievers had mixed emotions or disagreed in comparison with 84% of the overachievers, resulting in another significant difference.

Favor parent's lifestyle for self. Both groups responded almost identically on this item with 46% of each group agreeing and 54% with mixed feelings or disagreeing.

Believe high school grading is too easy. Again, both under- and overachieving freshmen reported similar feelings on this item with 42% of each group agreeing that high school grading is too easy.

Political liberalism/conservatism. The groups shared political stances with 26% of each group considering themselves liberal, 46% middle-of-the-road, and 28% conservative.

Share parents' political attitudes. No differences were revealed between groups with this item, with 61% of the freshmen of each group sharing the same political attitudes as their parents, 32% claiming to be more liberal, and 7%

professing to be more conservative.

Alcohol consumption. The underachievers tended to drink more alcohol than the overachievers. Of the underachieving group, 35% admitted to abstenance compared with 44% of the overachievers, representing the final significant difference among the ten "issues" variables.

Summarizing the "Attitudes toward Selected Issues" category of personal characteristics once again points to the even split among discriminating and non-discriminating items. The two groups shared their feelings about religion not losing its importance, the acceptability of their parents' lifestyle, easy high school grading, middle-of-the-road political attitudes, and shared, for the most part, their parents' political beliefs. On the discriminating items, the underachievers were more likely to favor the legalization of marijuana, believe their personal religion is losing its importance, accept alternatives to marriage, agree that women's activities are best confined to the home, and consume more alcohol.

Personal Characteristics: Reasons for Choosing the University of Oklahoma

The remaining category of personal characteristics was "Reasons for Choosing the University of Oklahoma." Students were asked to rate the importance of each item as it influenced their decision to attend the University. The means and ANOVAs follow in Tables 16 and 17, respectively.

TABLE 16

COMPARISON OF UNDER- AND OVERACHIEVER MEANS FOR EIGHT REASONS FOR CHOOSING OU

Variable	Under-Achiever Mean N=3208	SD	Over-Achiever Mean N=1953	SD
Close to home	2.77	1.04	2.62	1.04
Far from home	3.24	.93	3.32	.90
Good program in major	1.68	.91	1.69	.90
Parent's wishes	3.16	.97	3.06	1.00
Recruitment materials	3.05	.94	3.04	.94
Advice from friends	2.57	.98	2.44	.95
Offered financial aid	3.30	1.10	3.19	1.14
Prepare for grad school	2.41	1.21	2.40	1.21

TABLE 17

ANALYSIS OF VARIANCE OF EIGHT REASONS FOR CHOOSING OU

Variable	Mean Square Between Groups N=3208	Mean Square Within Groups N=1953	F	p
Close to home	19.11	1.09	17.56	.0001*
Far from home	4.51	0.85	5.31	.0212*
Good program in major	0.09	0.82	0.11	.7394
Parent's wishes	8.77	0.97	9.06	.0026*
Recruitment materials	0.14	0.88	0.16	.6925
Advice from friends	14.30	0.94	15.26	.0001*
Offered financial aid	10.50	1.24	8.47	.0036*
Prepare for grad school	0.09	1.47	0.06	.8101

* $p < .05$

Of the eight variables relating to the reasons the students chose their university, five revealed significant differences between the groups -- close to home, far from home, parents' wishes, advice from friends, and financial aid. The three variables that failed to discriminate were good program in major, recruitment materials, and preparation for graduate study. A closer analysis of the individual variables follows.

Close to home. Fifty percent of the overachieving freshmen chose the university because of its proximity to their homes, compared to only 44% of the underachievers, for a significant difference.

Far from home. The second significant difference was found in the "far from home" variable which more underachievers (24%) selected as important than did overachievers (21%), a finding not surprising based on the "close to home" results.

Good program in major. Both groups placed equal importance on selecting the University because of its good programs. Though 85% of under- and overachievers chose this variable, there was no significant difference between the groups.

Parents' wishes. The overachievers (31%) were more influenced by their parents' wishes than were the underachievers (26%), representing a third significant difference within this category.

Recruitment materials. Thirty percent of both under-

and overachievers felt that the recruitment materials offered by the University influenced their decision to attend the University, while 70% did not. Again, there was no difference between the groups.

Advice from friends. Friends played a greater role in influencing the overachievers' decisions as confirmed by 57% of that group in comparison with only 51% of the underachievers for still another significant difference.

Offered financial aid. More overachievers' decisions, were influenced by offers of financial aid -- 29% compared with the underachievers' 24% -- revealing significant differences between the two groups.

Prepare for graduate or professional study. Approximately 57% of both groups chose the University in preparation for graduate or professional study.

A summary of the "Reasons for Choosing the University of Oklahoma" showed that the groups differed on five variables: close to home, far from home, parents' wishes, advice from friends, and financial aid. The overachievers, more so than the underachievers, preferred the University because of its proximity to their homes, their parents' wishes, the advice of friends, and financial aid benefits. The underachievers preferred the University because it was "far from home" more so than did their counterparts. The groups shared similar opinions regarding the influence that good programs in their majors, recruitment materials, and preparation for

graduate study played in choosing to attend the University of Oklahoma.

Summary of Personal Background Characteristics

Of the sixty-nine variables explored in this study, fifty-two were found in the Personal Background Characteristics section. Of those fifty-two items, differences between under- and overachievers were found in twenty-seven, or slightly more than half. Because of their varied nature, the items were divided among four categories -- "Goals and Needs," "Attitudes toward the Potential Benefits of College," "Attitudes toward Selected Issues," and "Reasons for Choosing the University of Oklahoma" -- from which the following highlights were derived.

Both under- and overachievers had similar degree expectations and lack of concern over the financing of their education. Both felt that religion was not losing its importance, that their political attitudes were similar to their parents' views, and that high school grading was too easy. They also shared similar views that the purposes of a college education should include the development of job skills, intellectual curiosity, and problem-solving abilities. Both under- and overachievers regarded similarly the importance of good programs in their majors and preparation for graduate study as reasons for choosing to attend the University.

Underachievers were less likely to live in campus housing and more likely to work at a job during school. They

expressed more sureness of their intended major and future vocation and were more likely to be interested in the sciences. Additionally, underachievers were more likely to favor the legalization of marijuana, consume greater amounts of alcohol, and accept alternative styles of living arrangements. They were also more likely to choose attendance at the University because its location was far from their homes.

On the other hand, overachievers preferred on-campus living and not holding a job during college. They also expressed a greater degree of preparedness in writing compositions. Overachievers were more likely to place importance on developing open-mindedness, on awareness of other cultures, on social interaction skills, and on tolerance of others. Regarding the selected issues, overachieving freshmen were less likely to favor the legalization of marijuana, to believe their personal religion was losing importance, to consume alcohol, or to accept alternatives to marriage. Moreover, the overachievers were more likely to choose the University of Oklahoma because of its nearness to home, their parents' and friends' advice, and financial aid benefits.

Hypothesis No. 4

Relating to Research Objective III, Hypothesis No. 4 stated in the null form: there are no significant differences in the personal background characteristics of the groups of under- and overachievers. Analysis of variance was

used to test Hypothesis No. 4, revealing statistically significant differences in twenty-seven of the fifty-two variables. The hypothesis of no differences was rejected suggesting that differences existed in the personal backgrounds of the two groups.

Summary of Results

The four null hypotheses of the study stating that no differences existed between under- and overachievers were tested by the analysis of variance statistic. Table 18 presents a summary of these tests.

TABLE 18

SUMMARY OF TESTS OF HYPOTHESES

Hypothesis	Type of Test	Results
H_o1	ANOVA	6 Academic Background Variables: 1 Rejected 5 Not Rejected
H_o2	ANOVA	2 Academic Performance Variables: 2 Rejected
H_o3	ANOVA	9 Demographic Variables: 7 Rejected 2 Not Rejected
H_o4	ANOVA	52 Personal Characteristics Variables: 27 Rejected 25 Not Rejected

University of Oklahoma Freshmen in Relationship to Freshmen Nationally

In order to ascertain the representativeness of the study population to freshmen throughout the country, national data from the Cooperative Institutional Research Program under the direction of Alexander Astin were compared with selected findings from the study. The comparisons were based only on those variables found in both the national survey and University of Oklahoma New Student Survey: age, minority status, campus residence, parent's education and income, expectation of working while in college, expectation of pledging a Greek organization, degree expectations, reasons for selecting a particular college, attitudes toward selected social and political issues, such as the legalization of marijuana, living together before marriage, and high school grading, and political orientation.

The percentage averages of responses by approximately 816,000 freshmen who participated in the 1981 through 1984 C.I.R.P. Freshman Surveys were calculated and compared with the responses from the 6975 freshmen in the study sample. In order to make the comparisons as analogous as possible, the national norms used were those of freshmen attending public universities. The summary of those comparisons are found in Table 19.

TABLE 19

COMPARISON OF OU FRESHMEN WITH FRESHMEN NATIONALLY FOR THE YEARS 1981 THROUGH 1984

Variable	% OU Freshmen N=6975	% National Freshmen N=816,000
Demographic Data		
Age 18 or under	72.1%	76.2%
Minority status	10.9	12.7
Father with bachelor's or higher	55.6	37.3
Mother with bachelor's or higher	30.6	25.8
Parent's income $30,000 or more	63.1	46.3
Live on campus freshman yr.	63.3	60.2
Plan to pursue graduate study	43.2	37.1
No plans to work during fr. yr.	61.7	75.3
Expect to pledge frat/sorority	53.6	16.8
Attitudes toward Issues		
Agree strongly or somewhat that:		
Marijuana should be legalized	9.4	28.4
OK to live together before marriage	23.8	43.1
Women's activities are best confined to home	17.8	21.3
H.S. grading is too easy	41.8	59.7
Political Attitude		
Consider self liberal	25.5	21.8
Consider self middle-of-road	45.7	57.1
Consider self conservative	28.9	21.2

TABLE 19 -- Continued

Variable	% OU Freshmen	% National Freshmen
Reasons Noted as Very Important in Choosing College Attended		
Good academic program	52.9	53.7
Advice of friend/former student	15.1	14.2
Offered financial aid	12.8	18.2
Wishes of relatives	8.1	6.6
Recruited by college	6.2	5.8

Except for occasional similarities among several demographic variables and most of the "Reasons for Choosing College Attended" items, the University of Oklahoma freshmen differed notably from the national norms. In the demographic category, minority representation on campus was comparable between OU (10.9%) and the national norm (12.7%), as was the percentage of freshman planning to live on campus (63.3% for OU and 60.2% nationally). Under the "Reasons for Choosing College Attended" category, OU and national freshmen were within two percentage points on each item except for "received financial aid," where only 12.8% of OU freshmen noted that reason as "very important" in selecting the University, as compared to 18.2% for freshmen nationally. This could be interpreted two ways: either the University of Oklahoma gave less financial assistance than most universities, or some OU

students who received aid planned on attending the University despite the financial assistance offered them.

Among the demographic differences found between the study group and freshmen nationally, the OU freshmen were slightly older, as only 72% were eighteen years of age or younger as compared to 76% nationally. In addition, their parents were more educated and had a higher income. With 56% of their fathers and 31% of their mothers possessing college educations, compared to 37% and 26% nationally, the OU freshmen differed significantly. Similarly, there was a large gap between the groups regarding family income, as 63% of the OU group had parental income of at least $30,000 compared to the national norm of 46%.

Other demographic differences included the following: 43% of OU freshmen intended to pursue graduate degrees compared to 37% nationally, and 54% of the OU group, compared to 17% of the national group, expected to pledge a fraternity or sorority -- quite a large difference. On the other hand, more students nationally (75%) planned not to take a job during their freshman year than did the OU freshmen (62%).

There were also large discrepancies between the groups on the social issues. Nine percent of the OU group favored the legalization of marijuana, as opposed to a norm of 28%; 24% of OU's freshmen approved of couples living together before marriage, as opposed to a norm of 43%; only 42% of the OU group thought grading in high school was too easy, com-

pared to 60% nationally; and, for a less extreme difference, only 18% of the OU sample favored confining women's activities to the home, compared to 21% nationally (the only variable where the OU freshmen were more liberal than their national counterparts).

The final differences were revealed in the students' political views. Twenty-six percent of the OU freshmen considered themselves liberal as compared to the norm of 22%; 29% of the OU freshmen identified themselves as conservative in contrast to the norm of 21%; and 46% of the OU respondents labeled themselves middle-of-the-road, a significantly lower figure than the 57% reported by freshmen nationally.

Summary of National Comparison

These findings present a number of interesting comparisons. The OU freshmen appear to come from higher socioeconomic backgrounds with a larger percentage of college educated parents and, subsequently, larger household incomes than the national norms. Likewise, a higher percentage of OU freshmen expect to pursue graduate or professional study. Where both groups selected their institutions for similar reasons, the OU freshmen were both more liberal and conservative in their political views. However, their views on the social issues of marijuana and living together were much more conservative -- twenty percentage points on each item -- than the national views. These findings could imply different levels of liberalism or conservatism in different parts of

the country or may suggest that OU freshmen differentiate between their social and political attitudes.

In broad terms, the OU study sample would most likely not be considered representative of the general freshman population. Where both groups possessed similar minority and on-campus representations, the OU freshmen were decidedly distinguishable from the norm due to their raised socioeconomic backgrounds, expanded expectations for advanced degrees, and increased desire for pledging a Greek organization.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The purpose of this study was to determine which intellective and nonintellective background factors distinguished underachieving from overachieving freshmen at the University of Oklahoma. The investigation involved groups of under- and overachieving freshmen statistically sorted from the general population of full-time freshmen; the two groups' academic, demographic, and personal backgrounds were compared for any distinguishing differences.

Reviews of three categories of data, including a discussion of the major findings as they relate to previous research, follow.

Academic Characteristics

The under- and overachieving groups' academic backgrounds were the most similar among the three categories, as only three of eight variables were determined by analysis of variance to be significantly different -- high school GPA, freshman year GPA, and number of hours earned. Where the overachieving freshmen had slightly lower high school grades

than their underachieving counterparts, they earned higher grades and more credit hours their first year in college. This finding was inconsistent with Smith's study which found high ability underachieving freshmen to have lower high school GPAs.[1] The first year performance of the overachievers may have been the result of any number of factors, but, certainly, a stronger internal motivation may have played a role.

It was interesting to note the lack of differences between the groups' ACT scores, hypothetically indicating students of equal aptitude. Similarly, McCausland and Stewart's study had concluded that students with high ACT scores and low first year grades had poor attitudes and study habits.[2] Perhaps, though, the ACT scores used for the study contained too much uncontrolled error variance or measured limited aspects of behavior, as noted in the "Assumptions of the Study" found in Chapter I.

Demographic Characteristics

Of the nine demographic variables, only two failed to discriminate between under- and overachievers as the result of analysis of variance -- minority status and parental income. These two findings are intriguing in light of the abundance of research which has shown that students from high socioeconomic backgrounds generally achieve higher than

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[1]Smith, p. 12. [2]McCausland and Stewart, pp. 353-57.

those from low socioeconomic backgrounds.[1] Similarly, most minority students do not come from high socioeconomic backgrounds. Conversely, a study by Barger and Hall and another by Astin found no relationship between parents' income and freshman year success, supporting this study's findings that both groups consisted of similar percentages of minority freshmen and both came from families with similar incomes.[2] Thus, neither group differentiated according to minority status or family income.

The underachieving group was found to be slightly older, to be more male-dominated, to come from smaller towns, to have a larger out-of-state contingency, to have less educated parents, and to have fewer family members who attended the University of Oklahoma. On the other hand, the overachieving group was slightly younger, more female-dominated, from larger towns, had a larger Oklahoma representation, had more educated parents, and had more family members to attend OU.

Considering the age variable, the present study indicated that underachieving freshmen were the older of the two groups, where Griffin's research and Astin's longitudinal data showed a positive relationship between age and college grades -- opposite of this study's conclusions. Yet, both

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[1]Kenneth A. Feldman and Theodore M. Newcomb, The Impact of College on Students (San Francisco: Jossey-Bass Publishers, 1976), p. 107.

[2]Barger and Hall, pp. 501-508; and Astin, Predicting Academic Performance, p. 20.

researchers found correlations between the female variable and achievement, substantiating the present study's findings in regard to gender.[1]

While underachievers appeared to possess a larger representation of out-of-state students than did the overachievers, nothing in the literature addressed the issue. Yet, this finding presents a paradox of sorts. Since most state universities require higher academic standards of their out-of-state applicants, why would these students more likely be represented in the underachieving group? Perhaps the greater the distance from home, the more culture shock or homesickness in students. Maybe an even more realistic explanation might be the anxiousness of students to get far away from home in order to enjoy the social aspects of college. Whatever the reasons, overachieving students at OU were more likely to hail from Oklahoma than from other states.

Once again, Barger and Hall found a correlation between student achievement and the father's educational level, but not the mother's; Astin's study as well as one by Brown and Dubois revealed a linear relationship between both parents' educational levels and student performance.[2] For the most part, these findings are congruent with the present study -- the parents of the overachievers are more educated

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[1]Barger and Hall, pp. 501-508; and Astin, Four Critical Years, p. 104.

[2]Barger and Hall, pp. 501-508; Astin, Four Critical Years, p. 104; and Brown and Dubois, pp. 603-607.

than their counterparts. This finding, however, raises an intriguing point. Typically, higher levels of education are associated with higher levels of income, but not so in this case. The parental income of both under- and overachievers was found to be similar, despite the differences in educational levels. Thus, if indeed family background circumstances influence a student's level of achievement, such influences must likely surpass economic bounds and exist in the realm of family values, at least for the subjects of this study.

The present study found more underachievers to hail from smaller cities and more overachievers to come from larger ones. This finding was congruent with Flaugher and Rock's study but contrary to Smith's, who found that his underachievers came from large cities and his overachievers came from smaller ones.[1]

Personal Characteristics

The personal characteristics of freshmen examined in the present research were divided into four subcategories: data relating to students' goals and needs, attitudes toward the benefits of a college education, attitudes toward social issues, and reasons for choosing the University of Oklahoma. Of the fifty-two Personal Characteristics variables, twenty-seven discriminated between under- and overachievers.

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[1]Flaugher and Rock, pp. 223-228; and Smith, pp. 10-12.

Because of the unique nature of the instrument used to obtain the information, many of the findings as they relate to academic performance were not addressed in the literature. The four subcategories have been summarized as follows.

Goals and Needs

Both groups exhibited similar goals regarding their degree expectations, financing their college education, and pledging a fraternity or sorority. Where Kerns found that overachievers were more interested in the intellectual aspects of college while underachievers were more interested in having a good time, such could not be inferred from this study since both groups had similar degree expectations.[1]

The fact that both groups of freshmen expressed equal interest in pledging a Greek organization was inconsistent with the findings of Romine and Crowell, who suggested that high achievers were less social than low achievers.[2] However, Feldman and Newcomb's conclusion that students who pledge Greek organizations come from higher socioeconomic backgrounds supports the "no differences in parental income" finding of this study, as does the fact that neither group was more or less concerned about financing their education than the other.[3] It appears, then, that both groups had significant representations of students from economically

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[1]Kerns. [2]Romine and Crowell, pp. 787-92.

[3]Feldman and Newcomb, p. 197.

able families.

More overachievers in this study planned to live on campus while fewer intended to work their freshman year as compared to the underachievers. Likewise, positive relationships have been shown to exist between on-campus living and persistence, involvement, satisfaction, and academic performance.[1] Pascarella's correlation between living on campus and higher degree aspirations was inconsistent with the present study which found similar degree aspirations among under- and overachievers.[2]

The study's finding that a larger proportion of underachievers intended to work at a job during school was intriguing in view of the fact that both groups came from families with similar economic backgrounds and neither expressed concerns over financing their education.

As far as they perceived their personal and educational needs, both groups shared an adequate understanding of themselves and their interaction with others, and both felt they possessed adequate speaking, researching, and mathematical abilities. The overachievers expressed a higher level of preparedness in writing compositions, while the underachievers indicated a greater degree of preparedness in reading comprehension and vocabulary usage.

Many studies have shown freshman self-esteem to be an

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[1]Chickering, p. 64-84.

[2]Pascarella, pp. 292-99.

important factor in determining students' future success.[1] Lum's study reported overachievers to be more self-confident than underachievers,[2] yet the underachievers in this study expressed similar confidence in their social interaction and in their speaking, researching, and math abilities; they even expressed a greater degree of preparedness in reading comprehension and vocabulary usage than their counterparts. This study's findings regarding the self-concept of underachievers obviously disagree with the literature.

Another interesting between-group difference was revealed among the "Needs" variables where more underachieving freshmen expressed sureness of their academic majors and future vocational plans than did overachievers. Aiken had found a correlation between sureness of vocational goals and freshman year attrition, which has often been construed as similar to underachievement.[3] However, Weitz and Wilkinson found that males who expressed a preference for a major achieved higher grades than those who were unsure of their major.[4] Perhaps the underachievers in this study -- 58% of whom were males -- demonstrated a higher degree of conviction in both "sureness of major" and "sureness of vocational

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[1]DeBoer, pp. 344-349; Hamacheck; Calsyn and Kenny, pp. 136-145; Valine, pp. 309-312; and Frieze and Weiner, pp. 591-606.

[2]Lum, pp. 415-420.

[3]Aiken, pp. 127-135.

[4]Weitz and Wilkinson, pp. 54-60.

plans" because they possessed less emotional flexibility or open-mindedness than their counterparts. Despite the *a priori* certainty of major selection and vocational planning, research has shown that the majority of students eventually alter such plans.[1]

The following highlights of the findings within the "Goals and Needs" section appeared to be unique in the present research: (1) similar degree expectations, similar intentions to pledge a Greek organization, and similar degrees of academic and social self-confidence between both groups; (2) a larger representation of overachievers living on campus, but a smaller percentage planning to work at a job during their first year; and (3) the indication by underachievers that they are more prepared in their reading and vocabulary skills, as well as more sure of their academic and vocational goals, than their counterparts.

Attitudes Toward the Potential Benefits of College

This subcategory of personal characteristics addressed eighteen benefits of possible student development resulting from college attendance. The two groups shared their views on nine of the eighteen variables -- developing a background for lifelong learning, job skills, intellectual curiosity, problem-solving abilities, a sense of order related to the world of knowledge, and a greater understanding of ethical

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[1]Feldman and Newcomb, pp. 151-195.

and moral standards, the humanities, the fine arts, and the social sciences.

The overachievers placed greater importance on the development of a sense of personal identity, social interaction skills, tolerance of others, vocational interests, open-mindedness, an awareness of other cultures, an understanding of social issues, and communication skills. Only one of the above areas -- tolerance of others -- could be found in the literature to demonstrate a relationship to achievement. Wankowski found that overachievers already exhibited more tolerance of others than the underachievers.[1] Of the eight variables of greater importance to the overachieving group, all but one, vocational interests, appear to emphasize the need to cultivate a broad perspective. The open-mindedness displayed by these students' responses tends to show an appreciation for the kind of social awareness manifest in a general education.

The only item chosen by more underachievers than overachievers was "understanding the sciences more fully." The fact that the underachievers preferred study of the sciences over the overachievers may partially explain their underachievement status. One might speculate that the students in this group took more scientific and mathematical courses -- courses which traditionally yield lower grades than other freshman courses -- than did their counterparts.

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[1]Wankowski.

It is difficult and risky to try to explain why students' attitudes toward the potential benefits of college differ. The fact remains that nine of the eighteen items discriminated between the two groups, and, with seven of those nine differences, the overachievers placed more emphasis in a cohort of variables which represent an openness to new ideas and learning.

Attitudes toward Selected Issues

This subcategory of personal characteristics measured students' attitudes toward ten social and political issues. The large standard deviations, or variance around the means, may be interpreted to mean that the items were controversial, resulting in much variation within the groups. There were no differences between the groups on the five issues concerning religion losing its importance in general, the acceptability of their parents' lifestyle, easy high school grading, middle-of-the-road political attitudes, and sharing parents' political beliefs.

The results of the study indicate that underachievers are more likely to favor the legalization of marijuana, to believe their personal religion is losing its importance, to accept "living together" before marriage, to agree that women's activities are best confined to the home, and to consume alcohol. These findings are interesting because all but one -- agreeing that women's activities are best confined to the home -- suggest the underachievers to be more socially

liberal. Yet, both under- and overachievers noted similar representations of liberals, conservatives, and "middle-of-the-roaders" among their group members. The findings also raise the following question: might the fact that the underachievers consumed more alcohol have impacted their underachievement status?

The responses of the overachievers, with the more conservative outlook, give the impression that these students came to college for the primary reason of learning -- not playing. The fact that 44% of them acknowledged that they did not consume alcoholic beverages perhaps partially contributed to their their superior grades their freshman year.

Reasons for Choosing the University of Oklahoma

In the last of the four subcategories of personal characteristics, students were asked to rate the importance of eight variables as they influenced their decision to attend the University of Oklahoma. Of the eight items, three were chosen equally by the two groups: good program in my major, recruitment materials, and preparation for graduate study. Again, the last item, preparation for graduate study, corresponds with the lack of difference between groups on their degree expectations from the "Goals" category. However, the first item, good program in my major, raises an interesting point; more underachievers than overachievers were sure of their academic major in the "Goals" category, yet both rated the "good program in my major" reason for

selecting the University equally.

On the discriminating variables, the overachievers, moreso than the underachievers, chose the University because of its proximity to their homes, their parents' wishes, the advice of friends, and financial aid benefits. Perhaps the "closeness to home" and "parents' wishes" reasons suggest that these students are emotionally closer to their families and go home on weekends more often than their counterparts. This speculation could also explain the larger percentage of non-drinkers. Another question raised by these findings is why were more overachievers offered financial aid when their high schools GPA's were slightly lower and their ACT scores were on par with the underachieving freshmen? In addition, both groups came from families with similar incomes.

The underachievers, on the other hand, selected the University for the reason that it was far from home more than did the overachievers. Similarly, Aiken's study found a correlation between "far from home" and dropping out, suggesting that students whose homes are far from their university are either too homesick to perform academically well or are too far away from their parent's "guidance."[1]

Conclusions

This study attempted to classify students as under- or overachievers through the use of multiple regression and to explain the groups' differences in terms of both intellective

[1]Aiken, pp. 127-135.

and nonintellective background variables. This type of research fosters a more complete understanding of students, both those who achieve a criterion of success and those who do not, and provides data that may be useful in future planning. The more knowledge that those in higher education leadership positions have about their students, the more able they are to make informed decisions about their institution's programs and services in order to increase persistence and better meet the needs of their constituents.

It is not unusual for the validity and reliability of instruments such as the New Student Survey to be questionned regarding their predictability. Yet, prediction is only one way of demonstrating validity; validity may also refer to the usefulness of a measure to assemble evidence which helps an institution achieve certain goals. Background data of students such as resulted from this study may be used to address issues of campus diversity, student development and persistence.

Instruments which solicit self-reported background information are often criticized on the grounds that the data lack authenticity. To be certain, the New Student Survey contains variables whose validity may be subject to question, but the instrument has proven useful to University officials since 1975 when it was first administered. Many studies have been conducted which have demonstrated the reliability of

instruments which use self-reported data.[1]

The first portion of the study attempted to explain freshman achievement by correlating measures of past academic performance with each student's first year grade point average. Yet, upon comparison of both groups' high school GPAs and ACT scores, few differences were noted, suggesting that freshman year performance had been influenced by factors other than academic ability. Explanation for differential performance among students may be rooted in two types of theories: the developmental and interaction theories.

Developmental theorists such as Perry and Chickering reason that a student's cognitive and social development progress through sequential stages and not all similarly aged students progress through the same stages at the same time. This accounts for the significant differences found between the groups' goals and needs, attitudes toward the potential benefits of college, and attitudes toward social issues.

Similarly, the person-environment interaction theorists, such as Astin, explain student behavior in terms of how the student interacts with the total university environment -- programs, activities, facilities, traditions and people. Each person interacts in his/her own way according to his/her knowledge, motivations, and background characteristics.

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[1]Hunter Breland, Assessing Student Characteristics in Admissions to Higher Education, (New York: The College Board, 1981), p. 6.

Both developmental and interaction theories are somewhat interrelated, since students most assuredly interact with their environments thereby promoting their cognitive, emotional, and social transformation. It can be reasonably assumed that such change facilitates progress through the various stages of development. Moreover, these theories emphasize each student's individuality, partially explaining the variance which was found between the groups of under- and overachievers, despite their similar aptitudes as revealed by the ACT.

The results of this study indicated that differences existed among the academic, demographic, and personal backgrounds of students classified as under- and overachievers. In fact, statistically significant differences were found in thirty-seven of sixty-nine items. But, just as important as finding differences among the categories of variables was discovering no differences among background variables that are characteristically manifest in either high achieving or low achieving students, but not both groups. Of the thirty-two items where no differences were discovered, the most surprising were the following: both groups had similar minority student representations, came from families with similar economic backgrounds, had similar degree aspirations, had similar expectations to pledge a fraternity/sorority, and shared similar politcal attitudes.

Still another interesting finding relates to the groups'

responses to why they chose to attend the University. Among the significantly different items, the overachievers favored the following: closeness to home, parents' wishes, friends' advice, and offered financial aid -- while the underachievers favored the "far from home" reason. Perhaps this reflects a different type of personality or internal motivation for the two groups, such as a familial orientation for the over-achievers or a self-centered orientation for the underachievers.

The study revealed the following profile of the typical underachieving freshman in comparison to the typical over-achiever. Academically, he had a higher high school GPA, had a lower freshman year GPA, and earned fewer hours. Demographically, he was older, was more likely to be male, came from smaller cities, was more likely to come from out-of-state, had parents with less education, and had fewer family members who attended OU. According to his personal goals and needs, he was more likely to work during the freshman year, was more sure of his academic major and vocational plans, and was more confident of his reading and vocabulary skills. As for the benefits of a college education, he was more interested in developing a greater understanding of the sciences. His attitudes toward issues could be described as more liberal on the marijuana, personal religion, and living together issues, and more conservative on confining women's activities to the home issue; in addition, he was more likely to drink alcohol

and more likely to choose to attend OU because of its farness from home.

The typical overachieving freshman, on the other hand, was found to have the following characteristics in comparison with the underachieving freshman. Academically, she had a slightly lower high school GPA, had a much higher freshman year GPA, and earned more credit hours the freshman year. Demographically, she was younger, more likely female, came from larger cities, was more likely from Oklahoma, had parents with higher educational backgrounds, and had more family members who attended the University of Oklahoma. Among her goals and needs, she was more likely to live on campus, was less likely to work at a job during college, was less sure of her academic and vocational goals, and expressed a higher level of preparedness in writing compositions. Among her attitudes toward the benefits of college, she was more likely to place importance on developing a sense of personal identity, social interaction skills, tolerance toward others, vocational interests, open-mindedness, an awareness of other cultures, an understanding of social issues, and communication skills. Her attitudes toward the marijuana, personal religion, and living together issues could be considered more conservative, while her attitude toward women's activities being confined to the home was more liberal. The overachiever was also less likely to consume alcohol. Among her reasons for choosing OU, the overachiever preferred the

University because of its proximity to home, her parents' wishes, the advice of friends, and financial aid benefits.

The above findings revealed some interesting dichotomies existing in both groups. For example, the underachievers expressed self-confidence in their speaking, researching, mathematical, reading comprehension and vocabulary skills, yet they still underachieved. Could this be related to the fact that they were more likely to come from smaller cities and high schools where the academic and social demands were less stringent and where expertise in dealing with impersonal, bureaucratic systems may have been lacking? These underachieving freshmen, with the same goals and degree aspirations as their counterparts, need to be made aware of their shortcomings before their goals become mere pipedreams.

Another interesting conclusion was the finding that the overachievers were more conservative in their attitudes toward four of five social issues where significant differences were found; yet, they were of the same political persuasion as the underachievers, 72% of whom considered themselves liberal or middle-of-the-road.

Still another intriguing finding concerned the fact that more overachieving than underachieving students planned to, and actually did, live on campus. The literature addresses the educational impact of on-campus living in terms of involvement, self-concept, and persistence, all which most likely have an indirect bearing on academic performance, but

does not directly speak to the issue of achievement. Perhaps those on-campus students benefit more through peer influence, such as studying together or helping each other with homework.

The study's finding that more underachievers were male could possibly relate to the conclusion that more underachievers drank alcoholic beverages, though a similar study controlling for sex differences would have to be conducted to confirm that speculation. Indeed, both groups appeared to be socially inclined as evidenced by their similar intentions to pledge Greek organizations.

The fact that the students' ACT scores failed to discriminate between under- and overachievers would be considered the foremost implication resulting from the study. College and universities have become accustomed to selecting, admitting and placing students according to their ACT scores. Where the scores have been faithfully utilized for at least the last two decades to predict future performance, whether in individual courses or college in general, this study has shown for its population that alternative variables -- intellectual, antecedent, and personality -- factor into the equation which predicts academic performance.

Recommendations

From the analyses and interpretations made in this study, the researcher offers the following recommendations.

1) The findings from the "Needs and Goals" category showed

that approximately 32% of all freshmen were unsure of their choice of academic major, and over 40% had unclear vocational plans. Moreover, 92% of all freshmen, including underachievers, indicated adequate preparedness in the reading, writing, speaking and vocabulary skills. For these reasons, a freshman seminar course providing information for success in all aspects of college life, including major selection and career planning, should be offered for credit as a required course; the course might be taught by graduate assistants or members of the University staff. Such a course would be extremely beneficial for suggesting ways students could learn to manage their freedom and structure their time in order to avoid becoming underachievers; in addition, this type of seminar could provide guidance for those study undecided about their major and subsequent career choice.

2) Since the ACT scores of both under- and overachievers were basically the same, the University should continue its policy of admitting undergraduate students based on other than standardized test scores.

3) This study showed that 46% of the freshman population surveyed underachieved academically. Therefore, faculty members teaching freshman year courses should be required to submit mid-semester grade reports to the College academic couselors who, in turn, would contact those students with grades below "C" and offer correc-

tive suggestions. A program of this nature would require a much greater commitment to academic counseling by the University.

4) Since the study revealed that only 30% of the freshmen were influenced by recruitment activities or materials, and 54% were influenced by their friends and former students, more efforts should be made to use students in recruiting activites. Similarly, since there were more overachievers with family members who had attended OU, a recruitment project directed at current students with college-aged brothers and sisters should be encouraged.

Recommendations for Further Research

An exploratory study such as this one with sixty-nine variables could not help but produce many unanswered questions which could form the basis for future research about freshman achievement. Foremost would be a comparison of the findings from University of Oklahoma freshmen with freshmen in other regions of the country. Partial differences between the study population and freshmen nationally have already been revealed, but it would be interesting to compare responses from different regions of the country.

Another area of possible investigation might be to administer this or a similar instrument while controlling for on- or off-campus living arrangements during the freshman year. This would reveal any possible influence that on-campus life might have on first year achievement. A similar

treatment of the variables controlling for sex differences may also produce findings with implications for student development programs.

Though the present study did not investigate the concepts of motivation, except indirectly through some variables, the researcher acknowledges the importance of those internal forces in contributing to students' academic success in college. Perhaps a study which analyzes and compares motivation or motivational traits in under- and overachieving students would help interpret some of the variance found in the two groups which was not explained by their past academic performance.

This study of under- and overachieving freshmen suggests that background differences -- some large, but most small -- do exist between the groups. Some of the findings were expected and supported by previous research, yet many were unique. That there were no differences between the two groups on several important background characteristics was equally illuminating. Yet, if this study of some 7,000 University of Oklahoma freshmen from four separate years reveals anything, it is that stereotypes of underachievers and overachievers do not exist; the constituency of either group may exhibit the characteristics of male or female, black or white, rich or poor, etc., with equal frequency. However, it should be the University's responsibility as an institution dedicated to the transmission and advancement of

knowledge to see that each student is provided the resources and encouragement necessary to put his or her abilities and potentialities to the best use possible.

APPENDIX A

NEW STUDENT SURVEY

THE UNIVERSITY OF OKLAHOMA
New Student Survey

This questionnaire is being used to collect information about the students who come to the University of Oklahoma. It will not become a part of your record, and your responses will not be identified with you personally or released to anyone. It is necessary to have your student identification number on the form to be able to relate the information to future surveys which might again involve you.

We would like to have you respond as honestly and accurately as possible, and please do not share your responses with others who are also completing the questionnaire. We want your confidential responses, and we will treat them confidentially.

Part I: Background Information

1. Student Identification Number (Social Security Number)_____-_____-_____

2. Age:_____ 3. Sex: M____ F____ 4. Marital Status: S____ M____ Other____

5. Veteran: Yes____ No____

6. Ethnic Background: (1) White____ (2) Black____ (3)Hispanic____ (4) Asian or Pacific Islander____ (5) American Indian or Alaskan Native____ (6) Other____

7. Month and year of high school graduation _____
   Month Year

8. Citizenship: U.S. citizen: (1) Oklahoma____ (2) Non-Oklahoma____
   Foreign: (3) Temporary visa____ (4) Permanent visa____

9. The population of my hometown is:
   1. Under 2,500
   2. 2,500 -9,999
   3. 10,000-49,999
   4. 50,000-100,000
   5. Over 100,000

10. My father (indicate highest level):
    1. Did not complete high school
    2. Graduated from high school
    3. Did some college work
    4. Received a bachelor's degree
    5. Received a degree beyond the bachelor's

11. My mother (indicate highest level):
    1. Did not complete high school
    2. Graduated from high school
    3. Did some college work
    4. Received a bachelor's degree
    5. Received a degree beyond the bachelor's

12. Since leaving high school, have you ever taken courses for credit at any other institution (excluding this summer school)?
    1. No
    2. Yes, at an Oklahoma junior college. No. of hours_____.
    3. Yes, at an Oklahoma 4-year college or university. No. of hours_____.
    4. Yes, at an out-of-state junior or community college. No. of hours_____.
    5. Yes, at an out-of-state 4-year college or university. No. of hours_____.

13. I would guess that my parents' income (This information will be treated confidential)
    1. Is above $30,000 per year
    2. Is between $20,000 and $30,000 per year
    3. Is between $10,000 and $20,000 per year
    4. Is below $10,000 per year
    5. I haven't any idea

14. With regard to the financial needs for my college education:
    1. I have no real concerns
    2. I am somewhat concerned that I may not have enough money
    3. I am very worried about not having enough money

15. I will be receiving:
    1. No scholarships or financial assistance
    2. A scholarship, grant, or loan, or other form of assistance

16. Have other members of your immediate family such as parents or brothers and sisters attended OU? Yes ____ No ____

17. I am:
    1. An only child
    2. The oldest child
    3. The youngest child
    4. In between child

18. Father's occupation: _____

19. Mother's occupation: _____

20. What is your closest estimate of the scholastic average you will obtain at OU? _____

21. I expect
    1. To take some courses but not pursue a degree
    2. To acquire a bachelor's degree
    3. To do graduate or professional study beyond the bachelor's

22. I expect to pledge a sorority or fraternity: Yes ____ No ____ Uncertain ____

23. While attending OU my first year I will be:
    1. Living in the University residence halls
    2. Living with my parents in Norman
    3. Living outside of Norman with parents
    4. Living off-campus in Norman away from parents
    5. Living outside of Norman away from parents

24. While attending OU my first year:
    1. I do not expect to be employed
    2. I will be employed 1-15 hours per week
    3. I will be employed 16-30 hours per week
    4. I will be employed 31-39 hours per week
    5. I will be employed 40 or more hours per week

25. Circle the following items or groups which are applicable to you.
    1. University Scholars Program
    2. President's Leadership Class
    3. Varsity athlete
    4. Threshold Program
    5. Was admitted to the University on academic probation

Part II: Reasons for Choosing OU

(Respond to as many of the items 23-31 as you wish which describe your reasons for choosing to attend the University of Oklahoma using the following key):

1. Very important factor
2. Somewhat important
3. Minor factor
4. No influence

____ 26. Close to home or to live at home
____ 27. Far from home or to live away from home
____ 28. Good program in my major
____ 29. Parents' or other relatives' wishes
____ 30. OU recruiter or representative or printed materials about programs, academic department, and activities
____ 31. Advice from friends at OU or former students
____ 32. Was offered financial assistance
____ 33. To prepare for graduate or professional school

Part III: Student Goals and Needs

Choose the numbered response that best describes your reaction to each of the statements below from the following:

1. Strongly agree
2. Agree
3. Disagree
4. Strongly disagree

____ 34. I am sure about my choice of academic major.
____ 35. I am sure about my post-college vocational plans.
____ 36. I am sure that I understand myself.
____ 37. I am sure that I understand society and other people.
____ 38. I am sure that I am able to interact well with other people.

How well are you prepared in the following areas? Please evaluate each item by the following key:

1. Very well prepared
2. Somewhat prepared
3. Somewhat unprepared
4. Very poorly prepared

____ 39. Ability to write concise, expressive, compositions
____ 40. Ability to speak clearly, effectively
____ 41. Ability to write research papers
____ 42. Reading comprehension
____ 43. Vocabulary
____ 44. General algebraic computations

Choose the numbered response that best describes your evaluation of the importance of each of the potential benefits you expect to derive from attending the University of Oklahoma from the following:

1. Extremely important
2. Important
3. Relatively unimportant
4. Totally unimportant

____ 45. Develop a sense of personal identity
____ 46. Develop social interaction skills
____ 47. Become more tolerant of others
____ 48. Gain a background for lifelong learning
____ 49. Develop skill(s) and/or capabilities for specific job
____ 50. Develop interests which will lead to vocational possibilities

(PLEASE CONTINUE THIS SECTION ON NEXT PAGE)

1. Extremely important
2. Important
3. Relatively unimportant
4. Totally unimportant

___ 51. Become more open-minded
___ 52. Develop intellectual curiosity
___ 53. Improve my problem-solving abilities
___ 54. Develop a sense of order related to the world of knowledge
___ 55. Understand social issues and problems more fully
___ 56. Become more aware of other cultures
___ 57. Become more effective in communication
___ 58. Gain a greater understanding and appreciation of ethical and moral standards
___ 59. More fully understand the nature of science
___ 60. More fully understand the nature of the humanities
___ 61. More fully understand the nature of the fine arts
___ 62. More fully understand the nature of the social sciences

Part IV: Personal, Social, and Political Attitudes

The following statements have been taken from other surveys which have been used nationally in order for the University to make comparisons of its students with students nationwide. Please indicate how you feel about the following statements, by choosing the appropriate number to indicate:

1. Strongly agree
2. Agree somewhat
3. Mixed feelings
4. Disagree somewhat
5. Strongly disagree

___ 63. Marijuana should be legalized.
___ 64. Organized religion is generally losing its importance.
___ 65. Organized religion for me personally is losing its importance.
___ 66. Living together without being married is an acceptable alternative to traditional marriage.
___ 67. The activities of married women are best confined to the home and family.
___ 68. I would be happy to have the kind of life my parents have.
___ 69. Grading in high school is too easy.

70. I would characterize my political beliefs as:
1. Very liberal
2. Liberal
3. Middle of the road
4. Conservative
5. Very conservative

71. In comparison with my parents, my political attitudes:
1. Are about the same
2. Are much more liberal
3. Are somewhat more liberal
4. Are somewhat more conservative
5. Are much more conservative

72. Which of the following describes you?
1. I do not consume alcohol (including beer), this item does not apply.
2. I consume alcohol (including beer) about once a month.
3. I consume alcohol (including beer) about twice a month.
4. I consume alcohol (including beer) about 3-4 times a month.
5. I consume alcohol (including beer) 5 or more times per month.

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