PREDICTION OF FRESHMEN WITHDRAWING FROM AN EMERGING STATE UNIVERSITY

by

Claudie James Mackey

Dissertation submitted to the Faculty of the
Virginia Polytechnic Institute and State University
in partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

in

Educational Administration

APPROVED:

Jimmie Fortune, Co-Chairman

Robert R. Richards, Co-Chairman

Kenneth E. Underwood

Ron McKeen

Albert Thweatt

August 1989

Blacksburg, Virginia

PREDICTION OF FRESHMEN WITHDRAWING FROM AN EMERGING STATE UNIVERSITY

by

Claudie James Mackey

Committee Chairmen: Jimmie Fortune

Robert R. Richards

Educational Administration

(ABSTRACT)

The primary purpose of this study is to investigate and modify an instrument by which the prediction of high risk withdrawal students can be accomplished at an emerging state university.

The study utilized 334 members of the freshman class at the state university. Study participants received no special programming or treatment prior to completion of the questionnaire. The subjects were required to complete Alexander Astin's Prediction Scale. Measures taken were: pre-college background, family background, educational aspirations, expectations about college, student characteristics, source of financial aid, work status and place of residence during student's freshman year.

The statistical treatment of the data collected within this investigation required several techniques in determining its significance.

An analysis of variance was employed to ascertain the differences existing between the independent and dependent variable established within the investigation. A multivariate regression analysis was used to designate the exact location of the differences revealed by the ANOVA program.

An analysis of these computations revealed differences existing between males and females. Multiple regression revealed a difference in each of the four steps of each group when compared to the other group.

The findings of this investigation warrant the following general conclusions:

1. That the freshman year is very crucial in the persistence of students at the university by the highest percentage of withdrawals coming from the freshman class.
2. That entering freshmen with grades higher than A had a better than 50% chance for retention; other research supports this position.
3. That dissatisfaction with the program or lack of money contributes significantly to reasons for student withdrawal.

4. That financial stability of parents of students who attended the university is important in the persistence of all students.
5. That cooperative efforts from the local, state, federal and institution's financial communities is a must in keeping the availability of work opportunities for students who desire and have the need to work.
6. That commitment to the educational goals of the university was a major concern of enrollees.
7. Finally, that being able to "fit" both academically and socially was very important to incoming enrollees.

Acknowledgements

This seemingly unsurmountable task was given direction by a great deal of people interested in its completion. To the members of my committee, Dr. Jimmie Fortune, Dr. Robert R. Richards, Dr. Kenneth E. Underwood, Dr. Ron McKeen, and Dr. Albert Thweatt, I would like to express my sincere appreciation. Each was more than considerate in offering the assistance necessary while I physically endured a very serious illness; they encouraged me until the culmination of this study. Dr. Fortune and Dr. Richards, my advisors and co-chairs, thanks especially to you for being the foundation for holding me together.

Sincere gratitude is not enough for ,
, , , ,
, , , ,
, , , and .
Thanks a million for not walking away when you had every opportunity to do so.

There are also those whose help has been inspirational in nature: my wife, , who had to use all of her human resource skills to keep me going; my sons, and , and daughter-in-law , thanks for being the cheerleaders; my birth mother and father, and ; my in-laws, and ; my adopted mom and

dad, and ; you are the creator of what I have become. Thank you.

Finally, to who will never have the opportunity to complete a college degree, my graduation is your graduation. We have done it kid (deceased March , 1989 - "graduated" August 1989).

Table of Contents

	Page
Title Page	i
Abstract	ii
Acknowledgements	v
Table of Contents	vii
List of Tables	ix
List of Figures	x
Chapter	
I. INTRODUCTION	1
Statement of Purpose	5
Hypothesis	5
Limitation	5
Definition of Terms	6
Significance	7
II. REVIEW OF RELATED RESEARCH	9
Students' Family Demographic Attributes and Pre-College Schooling (Socio-economic Status)	9
Students' Commitment to the University	17
Students' Integration of "Fit" Into the University	21
Students' Commitment to the Institution's Educational Goals	28
Summary	32
III. RESEARCH PROCEDURE	34
General Procedures	34
Subjects	35
Design of Instrument	36
Variables	40
Method of Evaluation	41
Explanation of Evaluation Process	42

IV. ANALYSIS OF DATA 44
Description of Findings 45
Withdrawal 46
Grade Point Average 53
Parental Aid 58
Type of Work by Freshmen 63
Type of Residence 65
Size of Hometown 70
Description of Regression Model for the Predictions 73
Discussion 81

V. SUMMARY, CONCLUSION, RECOMMENDATIONS 84
Summary 84
Socio-economic Status 85
Commitment to the University 85
Integration of "fit" 86
Commitment to Educational Goals 86
Description of Findings 86

Conclusions 88
General Conclusions 88

Recommendations 89

BIBLIOGRAPHY 92

APPENDIX A. Letters for Permission to Conduct Study 100

APPENDIX B. Worksheets for Predicting Chances of Dropping Out 109
Prediction Sheets 115

APPENDIX C. Memo - Permit to Complete Questionnaire 124

APPENDIX D. Worksheet I 127
Raw Data 129
Worksheet II 136
Computer Worksheet 137

APPENDIX E. Predicted Dropout 144
149

APPENDIX F. Tinto's Conceptual Schema 153

VITA 155

List of Tables

Table		Page
1.	Student's Estimate of Dropout Chances	50
1A-1.	Comparison of Predicted/Actual Withdrawal	51
1A.	Predicted Withdrawal	52
1B.	Percentage of Tested Students by Intervals Rank Who Withdrew	54
2.	Retention-Related to Average High School Grade	55
3.	Effects of Parental Aid on Dropout Rates	59
4.	Types of Work by Freshmen	64
5.	Residence During First Year	67
6.	Size of Hometown Impacts on Persisters	71
7.	Factors Influencing the Propensity of Students to Withdraw (Females)	75
8.	Factors Influencing the Propensity of Students to Withdraw (Males)	76
9.	Factors Influencing the Propensity of Students to Withdraw (Males/Females)	78
10.	Total Variance of Factors Influencing the Propensity of Students to Withdraw	80
11.	Identified Withdrawn Students Based on Chances in 100 to Withdraw	147
12.	Percentage of Tested Students by Interval Rank of Who Withdrew	148

List of Figures

Figure		Page
1.	Withdrawal vs Grade Point Average	57
2A.	Male and Female Actual Withdrawal	60
2B.	Male and Female Expected Withdrawal	61
3.	Freshmen Workload	66
4.	Race of Residence	69
5.	Size of Hometown	72

CHAPTER I

INTRODUCTION

Student withdrawal from college has been and continues to be a topic involving much research and debate. Approximately 50% of all students who enroll in college drop out before graduation from college (Roberts, 1977).

Daily (1983) focused on the views of academic deans, deans of students and college registrars in regard to the problems of retention and student dropout at their respective institutions. Conditions compounding the basic problems of retention at small historically black colleges were:

1. a decline in enrollment.
2. the competition from both white four-year institutions and community colleges in the recruitment of black students.
3. lack of sufficient funds to support expanded administrative services, curriculum changes, the purchase of new equipment and physical plant improvements.

According to Arthur Ashe, author of the preface to Robert's publication, entitled "Project FAR: An Action

Response to College Attrition," less than one-third of the black college-age population is enrolling in college, compared to almost one-half of college-age whites. While about three-fifths of the white enrollees will stay to finish four or more years, only a little more than two-fifths of black enrollees will stay to graduate. The combined effect of lower enrollment and higher attrition of blacks means that one out of eight young blacks will attain a four-year degree compared to one out of four white youngsters (Roberts, 1977).

A recent survey, compiled by the Aetna Life Insurance Company and Delaware State College, revealed that there are three major factors that may be responsible for this dilemma. The findings indicate that important propensities leading to student withdrawal are: pre-college preparation, money, and support service (Roberts, Ashe 1977). Roberts (1977) suggests that pre-college preparation is the most important of the three. However, many students who manage to enroll are ill-prepared to meet the task before them. Therefore, colleges and universities must, through support services, provide those necessary tools needed by underachievers to complete their education.

Donovan (1983) suggests that persistence in college by low-income minority youth can be significantly improved through program intervention designed to influence key

college experiences, such as academic involvement and academic achievement. This in turn will promote equality of educational opportunity that is realized in part by gains in the persistence of black students in higher education.

Some studies suggest that a successful approach toward solving the problem of attrition should include the anticipation of problems, identification of students most likely to encounter problems and the provision of a functioning support system for those students who face difficulties (Donovan 1983, Daily 1983, Ironside 1979, Roberts 1977).

The primary purpose of this research is to investigate and modify an instrument by which the prediction of high risk freshman students who are most likely to withdraw from an emerging state university (see Definitions). It will further attempt to identify those factors that affect the propensity to withdraw from that emerging state university.

As the emerging state university continues its rapid development as a regional institution, the population ratio of 79% black and white will steadily change. Improved support of underachievers will become increasingly important. The average Fall freshman class at the University will encompass 4 to 5 hundred students

annually. It is estimated that fifteen to twenty percent of each freshman class will withdraw before the completion of the first academic year.

The annual enrollment of the university averages approximately sixteen hundred students (headcount) in recent years. On-campus housing presents a problem, for the university provides only 1150 living spaces for students desiring to live on campus. Slightly more than one-fourth of the student population must find off-campus housing or commute. Although it is not a majority, there are students who travel up to 160 miles roundtrip daily. The majority of the commuting students are older persons who are married.

A typical freshman class will have a higher concentration of black students than other classes. Most white students do not enroll until they have completed their freshman or sophomore year via community college within a hundred mile radius of the university.

In order to gather data relative to the freshman class, Astin's Prediction Scale will be administered to selected freshmen who enrolled in the state university during the first semester of the academic year 1986-87. Data will be analyzed in an attempt to test the utility of the instrument and to predict the students who will withdraw. Withdrawal data will be gathered through the use

of the Office of Student Affairs, to assist in determining the reliability of the instrument.

The findings are expected to be useful to officials of the university in the development of retention programs and in attempts to identify and counsel those students who are strong candidates for withdrawal.

Statement of Purpose

The primary purpose of this study is to investigate and modify an instrument by which the prediction of high risk withdrawal students can be accomplished at an emerging state university.

Hypothesis

That there will be no statistically significant difference between scores on the Astin Prediction Scale completed by male and female freshmen students who withdraw from the university and those who do not withdraw.

Limitations

1. This study is limited in scope to a single freshman class at an emerging state university.
2. This study is limited in scope to students in the class who were not provided special treatment.
3. This study is limited in scope to include only the freshmen year of the student's first year and not ensuing sophomore, junior or senior years.

Definition of Terms

For the purpose of this study, the following definitions will apply:

1. Decision Making - the ability of students to make choices most relevant to their written plan of action.
2. TBI - (Traditionally Black Institutions) those institutions traditionally designated as institutions for a black student population.
3. TWI - (Traditionally White Institutions) those institutions traditionally designated as institutions for a white student population.
4. Dropout - the student who leaves school and does not transfer to another institution.
5. Transfer - the student who leaves the university and chooses to enroll at another college or university.
6. Withdrawal - the act of a student leaving the university and returning later or not returning or transferring to another institution.
7. Attrition - a gradual reduction of students from college due to the many variables that contribute to the phenomena of student withdrawal.

8. Retention - the systematic implementation of programs designed to retain those students who select or are recruited by the institution.

9. Emerging State University - an institution of higher education at one time designed for teacher preparation of blacks, but more recently, desiring to and mandated by the State University System to focus emphasis towards a comprehensive university for all the people of the region.

Significance

Presently, the university does not have an instrument to identify potential dropout or withdrawal-prone students. A study of this nature might provide the momentum needed to implement programs to help more students succeed.

The thrust of any university should be to provide the best support system it can, to help each student reach his or her maximum potential. Recent data show that attrition is a problem for the college population as a whole. It is particularly so for those students who arrive with problems compounded by factors for which they have no control. In addition to financial and academic difficulties, underachieving students are often faced with negative attitudes by many students, the faculty and

administrators. Frequently, the unfamiliar and unsupportive campus environment adds to the preconceived assumption on the part of students that no one cares. If faculty and administrators are not willing to rectify an attitude of hostility or indifference, it will not only affect the underachiever, it will also affect better prepared students in their attempts to succeed.

Since small colleges for the most part are budget driven, it is imperative that a good program of student advisement and monitoring be an intricate part of its operation. If the real intent is to retain and graduate those students recruited, then good programing must occur.

As the university moves in a positive direction toward becoming a regional university, it is imperative that programs of study be designed that continually meet the needs of the student population, generally, and underachieving or problem-ridden students particularly.

Chapter II

REVIEW OF RELATED RESEARCH

An ever increasing body of research suggests that the withdrawal phenomena of small colleges and universities can be very detrimental to those institutions that are budget driven. Furthermore, many of the problems faced by these institutions are treatable.

A review of literature revealed that students' family, demographic attributes, and pre-college schooling; students' commitment to the university; students' integration "fit" into the university; and the students' commitment to the institution's educational goals do make a difference in the propensity of students to withdraw from college (Braddock 1981). A review of related literature is presented to show the impact the various areas may have upon student attrition at the college level.

Students' Family, Demographic Attributes and Pre-College Schooling

According to Hill (1983), in the Spring of 1976, 1,233,000 blacks were enrolled in college; for the 18-24 year old group, black high school graduates had lower college enrollment rates than all high school graduates; about 46 percent of black college students were 25 years

old or over; 3.5 times as many black independent students lived in households below the poverty level compared to all students; only a fifth of black dependent college students live in families with incomes over $20,000.00; approximately two-thirds of all black non-collegiate students had not completed high school; only one-fourth of black dependent post-secondary students came from families whose head had one year or more of college; and similar proportions of black independent and all independent non-collegiate students worked. These data indicate that there is a strong possibility that the deprived students who manage to be accepted and enroll in college, enter with the odds against them for completing their education.

In August 1980, Romano and Garfield completed an evaluation of the 1979-80 University of Minnesota General College (GC) Pilot Education Program (PEP) for academically unprepared minority group students. The results indicated that PEP students entered the college with weaker academic skills and different personal characteristics than other GC students. The PEP students achieved and were retained at levels compared to other GC students during the fall quarter. However, as the year progressed, they tended to perform more poorly than students in comparison groups. A profile of the more successful PEP students shows them to be younger, have higher educational aspirations and come

from families where the father has post-high school training. Recommendations from the study suggest that the college should continue skill/development and counseling activities for the students throughout the year and fully incorporate these activities in regular course offerings by altering the credit, timing, and sequencing of the courses.

Smith (1980) conducted a study of admission and retention problems for black undergraduate students in seven predominantly white universities. He was commissioned to identify the principal problems, propose program alternatives to promote retention and graduation, and make recommendations about the responsibilities of the institutions in assuring access and graduation opportunities.

According to Smith (1980), a composite of numerous interviews and questionnaire responses indicate that poor academic preparation in secondary schools is the main barrier to retention in higher education in these institutions, yet several of them are raising entrance requirements. A tendency was found in two private universities to accept only the most "socially acceptable" black students, excluding the economically disadvantaged.

As Smith (1980) suggests in his findings, attrition rates varied significantly among the institutions studied; but, at all of them, attrition appears to be rooted in the

poor quality of black student life--compounded by hostility towards blacks. Conflicting messages from policy and practice are felt by these students, and similar conflicts are felt among black students themselves. Students feel black administrators are not sufficiently concerned with their welfare. Substantial changes in admission, recruitment, financial aid, academic assistance orientation, counseling and student life policies and practices are recommended to support the black student community and interaction with whites.

The retention and ultimate graduation of a greater number of black students remain problems for administrators of higher education institutions. Student Services still remain an intricate part of success and persistence of all incoming freshmen.

In a study conducted on the campus of Bowie State College in Maryland, Gill (1983) supports the notion that special service programs for disadvantaged black students would increase the retention of black students. In the Spring of 1983, 73.7 percent of the 1619 undergraduates there were black. The mean SAT verbal score for all 1982 incoming female freshmen was 287, compared to 306 for male freshmen. Mean SAT mathematics scores for females and males were 312 and 351, respectively. A total of 55.8 percent of all freshmen indicated a 2.5 or below grade

point average during high school. Sixty percent of the 1982-83 undergraduates received financial aid, and approximately 75 percent of freshmen were first-generation college students. Special Services participants showed a need and received support in content area tutoring, academic assistance in reading and writing, study skill training, and advisement concerning registration and campus life.

The average national high school reading and math scores will indicate that there are numerous students who leave the public school system inadequately prepared for college or a job. The question is whether it is a non-commitment to set goals for themselves or other underlying factors. Research, Lyons (1977), shows that it is not always the student's inability to function academically, but rather an accumulation of other factors that prevent the student from attaching himself to a committed plan of action. Lyons (1977) states:

> "The declining enrollment rate, counter attack on and a weakening of affirmative action in student and faculty recruitment, diminishing funds, and distortions surrounding the ability of Blacks to pay for higher education are but a few of the problems which seriously affect educational progress. An all-out effort must be made to correct educational

inequities if the future is to hold promise for Blacks and other minorities."

Daily (1983) suggests that one of the conditions compounding the problem of retention in TBI's is the competition from both white four-year colleges and community colleges in the recruitment of black students. This competition has placed an enormous amount of pressure on the state's TBI's to meet their FTE (full time equivalency) quotas. The availability of academic scholarships and newly created opportunities made available to high achieving black students to attend traditional white schools have forced the TBI's to recruit and admit students whose high school academic performances may have prevented them from college admittance two decades ago.

Wiley (1983) took the freshman attrition phenomena further and more specifically focused on black freshmen at eight Mississippi public institutions of higher learning. The purpose of the Wiley study was to provide a profile of blacks who remained in college through the completion of the freshman year and those who withdrew from college prior to completion of the freshman year. An additional purpose of the study was to compare the dropout rate among black freshman at the eight public universities.

A 20 percent random sample of black freshmen was selected from each of the participating institutions. A

Chi-Square was used to determine the characteristics of non-persisters. A statistical difference between persisters and non-persisters was found on eight characteristics (Wiley 1982):

1. the size of the high school attended by black freshmen
2. high school grade point average of black freshmen
3. the number of close university friends they have
4. teacher knowledge of the names of black freshmen
5. whether or not a major had been chosen
6. reason given for the possibility of having to drop out of college
7. the degree of satisfaction with the college experience
8. university attended

Conclusions were based on those characteristics which were found to be statistically significant. It was recommended that the universities become aware of these characteristics and take appropriate measures to prevent them from becoming causes of black freshmen attrition (Wiley 1982).

In light of the progress that Black Americans as a group have made during the last two decades, a survey was conducted by McGhee (1983) to examine socio-economic and attitudinal differences within the black community. In the McGhee report, the following findings are were highlighted:

1. There are subgroups of blacks that are clearly definable by income, education, family type, and occupational level.
2. Nearly forty percent of black families have incomes below $10,000 per year, while ten percent have annual incomes above $35,000.
3. Black college attendance increased 93 percent between 1970 and 1980, but the high school dropout rate is still 25 percent.
4. Married couples (54 percent in 1980) and female-headed families (42 percent) constitute the two major black family groupings.
5. Despite economic differences, most blacks feel a kinship with other blacks that transcends economics.
6. In both high- and low-income families, unemployment was seen as the most important problem.
7. Black respondents with the highest household income mentioned experiencing racial prejudice as did those with the lowest income.
8. Cynicism among blacks at high occupational levels indicate their sympathy with, rather than antagonism toward those at lower levels.

9. Record turnouts of black voters for black candidates and the lop-sided majority of votes these candidates receive demonstrate black solidarity most dramatically.

It is concluded that the continued prevalence of racism in American society binds blacks together with a force far stronger than the divisive effects of economics or educational differences.

Students' Commitment to the University

Peng and Fetters (1978) indicate that the propensity to withdraw from college is a motivational rather than a socio-economic problem. Data to support their findings were drawn from the base year and the first and second follow-ups of the National Longitudinal Study of the High School Class of 1972.

Results indicated that:

1. women students were more likely to withdraw only in two-year colleges.
2. white students were more likely than black students to withdraw when other variables were controlled.
3. high school program, college grades, and educational aspiration account for most variance of withdrawal behavior.
4. financial aid did not have a significant effect on college persistence.

If colleges and universities are to tackle the attrition problems, there must be an operating plan of action to resolve the problem. Through the use of the Tinto Model, William Lotta (1984) conducted a study entitled "Institutional Attrition Among First Time College Freshmen: Fall 1981." The purpose of the research was to conduct an institutional study of why freshmen who entered college during the fall term 1981 did not return to resume degree work in 1982. The work was done in the framework of the Tinto Model and focused on the voluntary dropout. Students chosen for this study were college freshmen enrolled in a four-year program during the Fall Term of 1981, who subsequently enrolled during the Winter Term 1982 and lived in residence halls.

In considering specific variables that affected student attrition, high school GPA, class rank, and the degree of certainty that one has toward his/her college major were found among the pre-college characteristics. The number of collegiate extra-curricular activities, family interactions, perceived intellectual development, amount of perceived faculty concern for student development and teaching, and college GPA were significant among the college experience variables. Additional differences predicted between male and female were found (Barr 1983).

Smith and Henderson (1982) suggest that most colleges should address the following issues: use of packaging of federal, state, private, and institutional aid to minimize the debt burden for upperclassmen; help in the selection of a major field for undergraduates who feel uncertain about their interest and career options; provide help to any student who needs career counseling and placement ideas; and, make available internship to permit students to blend classroom and job experience prior to graduation.

Financial aid plays an important role in the propensity of students to withdraw from college. Terkla's study (1983) shows a significant relationship between persistence and the receipt of financial aid. The path analysis result indicates that receipt of financial assistance has the third strongest direct effect and the fifth strongest total effect upon persistence. The study further shows that there are significant differences between dropouts based upon measures of scholastic aptitude, high school program and educational aspirations.

According to Wade (1982), most programs designed to lower the attrition rate of black students involve attempt at making it financially feasible for black students to attend college and/or providing some type of remedial academic skills-building help for the black students. While acknowledging the significance of deficit in these

areas, Wade suggests that an equally important contributor to black students' persistence in college/university studies is the status of their emotional/mental health. Wade offers the hypothesis in his study that certain personality characteristics -- self concept, ability to be self-actualizing, etc. -- which contribute to emotional/mental health, can be positively influenced by a series of structured group counseling sessions. Another hypothesis is that, as these personality characteristics improve, academic performance will improve, and subsequently, that academic improvement will have a positive effect on retention. First-term black freshmen at the University of Oregon were the principal participants in Wade's study. The counseling sessions covered topics relative to university orientation, academic responsibilities, personal control, stress management, racial awareness, assertiveness, self-defeating behavior, self expectation and interpersonal relationships.

An experimental study with a control group was used as the framework for the study. A pretest and posttest were administered. The Personal Orientation Inventory and the Tennessee Self Concept Scale were administered to the project participants in an attempt to assess the effectiveness of the structured group sessions. Results indicate that the group experience had a positive effect in

areas such as self acceptance, inner directiveness and time competence. However, at the end of the observation period, conclusions could not be drawn in favor of statistically significant differences between experimental and control groups in the areas of academic progress, measured GPA, or retention rate (Wade 1982).

Stewart (1982) investigated the relationship between five independent variables (high school grade point averages, college entrance exam scores, personality, self concept, and college student satisfaction) and one dependent variable (college grade point average) concerning specially admitted black students at the University of Florida. Further study was conducted to examine the relationship between college student satisfaction scores for these black students and two other variables, personality and self-concept. A Pearson Product Moment Correlation indicated no significant relationship between college grade point average and any of the five independent variables. Correlation coefficients also indicated no significant relationship between college student satisfaction and the variables of personality type and self concept.

Student Integration or "Fit" Into The University

Suen (1983) examined the relationship between alienation and attention among black students (N=67) on a

predominantly white college campus. Results showed blacks felt more alienated than whites and dropped out at a significantly higher rate. Results suggest minority programs should focus on reducing social estrangement and meaningfulness.

Braddock (1981) reports that in research done by McGarth in 1965, the Traditionally Black Institutions (TBIs) accounted for less than 3% of the nation's college students, but provided higher education for more than half of the black college students. More specifically, Braddock's research sought to determine:

1. the relative influence of each component of the Tinto model on black student dropout proneness; and,
2. the degree to which the relative importance of the model's components differ for black students at TBIs and TWIs.

Tinto's 1975 conceptual model was designed to examine the effect of student input characteristics - which included family background, pre-college experiences and commitments, student college congruence and subsequent commitments on dropout propensity among a random sample of southern black college students. This conceptual model was useful to Braddock in studying dropout behavior based on the interaction of student-environment characteristics

and their relationship to college attrition. Braddock found 21% and 29% variance in black student dropout propensity at TBIs and TWIs, respectively. The ability of the academic and social integration variable to account for a significant proportion of the variance in black student dropout propensity in traditionally white but not in traditionally black college environments, has implications both for the validity of the model and for desegregation policies in higher education. Braddock's findings were consistent with studies conducted by others (Pascarella and Terenzini, 1979; Terenzini and Pascarella, 1978; Dawkins and Dawkins, 1980; and Dawkins 1978).

Braddock's study shows that black students on traditionally black campuses behave differently than black students at traditionally white institutions. Therefore, it is important for college administrators and faculties to be cognizant of the special needs of the students they serve and work to achieve greater positive results.

Factors that influenced voluntary withdrawal from The University of North Carolina at Chapel Hill were investigated. Ironside's (1980) research, which was based on a cohort of students admitted for the first time in Fall 1977, was conducted with a response rate of approximately 50 percent. Major and minor reasons for not returning to the University were tabulated for males and females.

Results indicate that race does not appear to be a significant factor in voluntary withdrawal and that reasons do not vary notably by sex an age. A total of 30 percent of those surveyed felt their reason for leaving was personal and 35 percent felt their reasons were more university-related. Negative perceptions that the 1979 non-returners had concerning the University's large size and "impersonality" were discussed and commonly cited as reasons for withdrawal.

It is suggested that the responses also indicate the importance of a "good fit" between students and the institution, since many of the students considered the university "atmosphere" the primary reason for their leaving. Changes in counseling, readmission procedures and other policies were recommended.

Eddins (1981) designed and conducted a study to test a hypothesized model of the attrition of specially admitted black students at the University of Pittsburgh. The goal was to test the relationships between latent variables: family background, the type of high school attended, entry ability, on-campus academic behavior, and attrition. Several indicators were used to assess the latent variables, and steps to analyze and modify the "fit" of the model involved estimating and determining the significance of all unknown parameters and conducting residual and

derivative analyses to determine possible measurement errors and needs for structural modifications.

A summary of findings indicated significant relationships among the constructs of entry ability, high school attended, on-campus academic behavior, and attrition. Entry ability was found to be significantly related to the type of high school attended and attrition. However, the construct most highly related to attrition was on-campus academic behavior. Important indicators of on-campus academic behavior were the adequate and timely completion of homework, regular class attendance, asking questions in class, careful and complete studying for tests, and putting forth maximum effort for class success.

The results indicated that, for these students, the best predictor for success in college is how they elect to spend their time. According to Eddins (1981), this is consistent with the results of research he reviewed which indicated that successful integration into the academic system of the university is significantly related to student attrition.

Timothy Sanford (1980) presented a paper at the annual meeting of the Southern Association for Institutional Research in Orlando, Florida. Efforts focused on factors that influenced the withdrawal of academically ineligible black students from The University of North Carolina at

Chapel Hill. It is suggested that students who involuntarily withdraw are rarely consulted as to their reasons for leaving and that academic ineligibility may mask many of the same reasons for withdrawing as are given for voluntary withdrawal. No significant differences in reasons for leaving were offered for ineligible and eligible students. The study suggests that academic attrition may be reduced by the sensitive response of an institution in areas of nonacademic administration, so that faculty need not feel that standards are being compromised in order to retain students.

Abatso (1982) conducted a study to determine whether there is an identifiable coping personality related to academic achievement and retention for black college students. Low-coping students were also taught coping strategies to determine whether the mastery of academic requirements facilitates achievement and persistence. The relationality of black student retention and the college's academic/social system of the college were also assessed. During freshman orientation week, 265 students from a small, private, historically black liberal arts university were administered the Student Information Form, a self report battery. The battery was concerned with self-concept of ability, locus of control, expectancy of success or failure, perception of the opportunity

structure, coping, and verbal ability. In addition, two versions of a freshman follow-up form were administered to on-campus returnees and transfers/dropouts. Low- and high-coping freshmen were also taught coping strategies and study skills and exposed to a network of support groups.

Abatso (1982) found that coping strategies were related to achievement and that achievement significantly influenced retention. Students who persisted had learned personality attitudes that gave them a sense of control over events.

Webb (1985) conducted a study to determine whether or not black students attending predominantly white rural colleges were more depressed and had lower self-esteem than either students attending predominantly white colleges or black students attending predominantly black colleges. Feelings of isolation were also investigated. Results showed no significant major effects or interaction effects by group or year in school on the depression or self-esteem measures. A Pearson Product Moment Correlation indicated a significant negative correlation between depression and self-esteem. On feelings of isolation, no differences were found for freshmen, but a significant difference was found for sophomores. An extremely high attrition rate was found for black freshmen on predominantly white campuses.

Students' Commitment to the Institution's Educational Goals

Symposium papers pertaining to college desegregation were summarized by Norman P. Uhl (1978). Attention was briefly directed to the impact of court-ordered guidelines for the development of desegregation plans, and North Carolina Central University's Institute on Desegregation which promotes research in desegregation. The 1977 federal guidelines suggest that numerical goals be set for increasing enrollment of black students in four-year institutions. Perhaps inadvertently, those guidelines created competition for black students among black and white state colleges and universities.

Although it was handed down to address the issue of segregation in elementary and secondary education, the historic Brown vs Topeka decision began and offered a new challenge for the historically black institution. Katherine White (1983) suggests that Brown vs Topeka, the 1964 Civil Rights Act, the 1973 Adams Mandate, and the 1978 Bakke Decision have all had a significant impact upon TBIs. These court decisions motivated TWIs to aggressively recruit and admit higher achieving black students who were formally educated in TBIs. White suggests in her findings that in meeting special needs of

disadvantaged persons, black institutions have developed expertise for providing unique student support systems.

Barr (1983) conducted a study to determine whether or not colleges could improve student retention by improving advisement programs. In the first stage of the study, he examined the advising/retention relationship and retention patterns from a sample of 31 colleges. Secondly, he examined, in-depth, a case of an improved freshman advising program.

The findings suggest that retention can be improved by good advisement programs. The case study suggested that four factors were important:

(a) faculty responsibility for the well-being and advising of specific freshmen.

(b) teaching those students in a small class.

(c) providing the opportunity to see advisees twice weekly.

(d) a capacity and willingness on the part of participating faculty to express support.

Good advisement programs are very important for students who enroll and do not know what to expect from their college experiences. A program such as the Advising Program at Western New Mexico University, is an example of the advantages of advising and goal-setting assistance. According to Terkla (1983), in 1980, the traditional

enrollment of about 1900 students there had dropped to a low of 1417. Through the efforts of the University's interdependence, the program was turned around. Although the counseling and advisement program at Western New Mexico University is still developing, Glennen and Baxley (1985) suggest that it has significantly contributed to the following results:

1. University enrollment has increased 18% and 13% for the years 1982-83 and 1983-84, respectively;
2. Attrition for freshmen was reduced from 66% to 48% during 1981-82, from 48% to 25% during 1982-83
3. For freshmen, more hours has been attempted per semester and higher GPA's have been earned;
4. Low ACT scores (composite of 10 or less) rose approximately 27% during 1981-83;
5. The number of advisement sessions increased significantly and personal social counseling sessions have been reduced by 67%.

Higgerson (1985) suggested to college and university administrators via her study, that retention research can have a more pragmatic value if it is designed to assess the student's perception of academic factors, faculty, advisors, and other university factors that will:

a. enable administrators to more accurately interpret student's reasons for withdrawing and;

b. provide a more solid basis upon which to devise recruiting programs generally and retention programs especially.

In the face of continued enrollment pressure, the needs for effective recruiting programs and retention programs are imperative. Yet, limited human financial resources necessitate that institutions reap maximum benefits from every dollar spent on recruitment and retention programs that are designed to address the "right" problem(s). She indicated that this task will become easier if college and university administrators make an effort to understand the reason students voluntarily withdraw from their institutions.

Mingo (1984) conducted a study to determine the relationship between the Special Services Program at the University of Florida and black student retention, grade point average, graduation and economic success.

Some key findings of this study were:

1. the Special Services Program is effective in providing services and activities to its participants
2. the activities and services provided by the program are not being used by all its participants
3. the retention efforts of the Special Services Program have significantly increased the

University's retention of black students

4. the attrition rate of black freshmen in the Special Service Program is significantly lower than the rate for all freshmen
5. the graduation rate of Special Service Students is not as high or equal to the graduation rate of the total student body
6. overall, peer counselors are effective providers of counseling services
7. the Special Services Program improved the potential spending power of the Special Service Students

The data suggest that the program is effective and that it has been a major factor contributing to an increase in retention and graduation rates of black students at the University of Florida.

SUMMARY

Institutions of higher learning cannot begin to reduce the problem of the propensity of students to withdraw until the reasons for withdrawal are identified, clearly understood and acted upon. Numerous research studies in the area of retention have been done in an effort to identify reasons for leaving school (for example, McMaster, 1982; Sullivan, 1982; Gosman, 1982; Astin, 1975; Zanoni, 1980; Smith 1979). The assumption made by these studies is: if research can identify the reasons students

arbitrarily withdraw, then administrators and faculties may be able to devise anti-attrition and good retention and recruitment plans that can help reduce the attrition rate.

Glennen and Baxley (1985) suggest that if high risk students are allowed continued access to higher education and continue to be a focus of recruiting efforts, institutions should provide services to reduce these student attrition rates and improve the probability that these students will succeed.

Dr. Andrew Kolstad who served on The National Longitudinal Study of the High School Class of 1972 suggested that some of the attention and concern of college administrators, educational researchers and policy officials currently devoted to understanding and reducing dropout rates might fruitfully be employed in trying to understand and influence the factors that bring young adults back into the educational system.

Chapter III

Research Procedures

General Procedures

The present investigation attempted to investigate and modify an instrument by which the prediction of high-risk freshmen students who are most likely to withdraw from an emerging state university can be made. The investigation include a subset freshman group composed of three hundred and thirty-four (334) students. It is estimated that fifty percent (167 students) of the subset will come from the sixteen-county area surrounding the emerging state university in question. No effort will be made to separate students into ethnic groups; however, an attempt to identify males versus females is proposed.

Written permission to conduct the study was granted by the Chancellor's Office, the Vice-Chancellor for Student Affairs, and the Office of Planning and Institutional Research (see Appendix A). In order to establish an administering schedule, a meeting with designated advisors of Freshman Orientation classes was held to minimize disruption of individual instruction of such classes (see Appendix C).

Written permission to use Alexander Astin's worksheet for the prediction of the chances of dropping out was granted by a representative from Jossey-Bass Publishing Company (Appendix A). Further, Tinto's 1975 Conceptual Explanation Schema For Dropouts From College was used as an example to examine and explain the effects of student input characteristics (see Appendix F). This instrument provides a scheme of explanation for the independent variable that will have the greatest impact on the dependent variable (withdrawal propensity) among first semester freshmen enrolled at the university.

Subjects

The subjects for this investigation were freshmen and new transfer students attending the University during the first semester. The researcher gathered data from three hundred and thirty-four (334) students. While it is expected that all questionnaires will be completed, only completed questionnaires with relevant data was used for the subset. However, in the case of a missing item, the Astin Prediction Scale provides regression means that can be substituted.

The subset used in the analysis encompassed 334 members of the Freshman class. University-issued student identification numbers served as the means of subject identification.

The subjects were questioned during the first three weeks of the Fall semester (1986) at the university. It was felt that, if the instrument proved to be valuable, it would be recommended for adoption for predicting possibly at-risk students. Freshman Orientation classes were suggested the most opportune time to administer the questionnaire. Each section of the administration was proctored by the chief researcher, and aided by student assistants assigned to the researcher.

Design of Instrument

Using Dr. Astin's worksheet for Predicting Chances of Dropping Out, all freshman students will be rated on their probability of completing a college education. This survey is based on Dr. Astin's research which determined those variables (Appendix B) most important to student persistence. Questionnaire items will cover academic background, religious affiliation, ethnic and racial background, goals, activities, habits and financial support.

The data in this Astin's questionnaire are both longitudinal and multi-institutional. Astin's Research subjects, selected from 1968 entering freshmen, were surveyed initially in Fall 1968 with a follow-up four years later in the Summer and Fall of 1972. These students were

elected from a representative national sample of 358 two- and four-year colleges and universities.

The original freshmen sample included 242,156 students. Because of budgetary limitations, it was not possible to follow-up the entire sample. Therefore, samples, in Astin's study, of approximately 300 students were selected randomly from each institution for the follow-up.

Questionnaires were mailed in late summer and Fall 1972 from the American Council on Education to each student's home address as provided on the original questionnaire that was completed four years earlier. First-class postage was used so mail would be forwarded to students who had moved. A reminder postcard was sent to each student approximately one week after the initial questionnaire was mailed, and a second questionnaire was sent to nonrespondents about one month later.

In addition to data from the freshmen and follow-up questionnaires, each institution provided students' scores on the Scholastic Aptitude Test (SAT) and American College Test (ACT), as well as information on whether or not they had completed the baccalaureate degree at the time of the 1972 follow-up.

Of the questionnaires returned, 41,356 were properly completed and used in the longitudinal study. To adjust

for any bias that might be introduced by differences between respondents and nonrespondents, complex weighting procedures were applied to the data from the 41,356 respondents. Independent studies (Astin and Molm, 1972) indicate that these procedures correct much of the bias that results from nonresponse to mail surveys. The method depends, of course, on having a large amount of prior information on both respondents and nonrespondents. Since the data provided by the institution on each student's degree status as of 1972 were also included in the weighting procedures, the weighted data were reasonably accurate indicators of the actual dropout and persistence rates in the total college population.

The questionnaire (see Appendix B) completed by the students when they entered college as freshmen in Fall 1968 included approximately 175 items covering such background information as age, sex, race, religion, and past achievements, as well as parents' income, education, and occupation. The form also asked questions pertaining to life goals, daily activities, reasons for choosing the college, source of financial aid, and self predictions about possible college outcomes (including estimates of the chances of dropping out temporarily or permanently).

The follow-up questionnare contained questions concerning the student's educational progress since

entering college: number of years of undergraduate attendance, degree earned, current degree plans and a year-by-year record of enrollment status. It also continued items on methods utilized by students to finance their undergraduate education, where they had lived each year since entering college, and types of jobs held. (The freshmen questionnaire and the follow-up questionnaire are available from the author at the Graduate School of Education, University of California, Los Angeles). A more complete description of the sampling design and other technical details, can be found in Astin, 1975.

Analyses of these longitudinal data involved several steps. The first was to utilize each entering student's personal background data (1968 questionnaire data plus SAT or ACT scores) to develop quantitative estimates of the student's chances of dropping out of college. The final steps were attempt to identify alternative environmental experiences that further influenced the student's chances of dropping out, that is, experiences that increased or decreased the estimates of dropout probabilities based on the student's personal characteristics (Astin 1977).

The prediction sheet contains 64 questions with an estimate of approximately 15 minutes to complete. At no time will students be identified by name in the questionnaire. Students will be asked to complete the

instruments and return them to the researcher. A computer printout will be obtained for all students who will have indicated by their replies the need for special advisement from Student Services.

Variables

Braddock (1981) used the four stages of the Tinto Model to explain the effect of the various variables on the dependent variable withdrawal/dropout propensity. For the purpose of this study, Braddock's grouping of measures for each variable was partially adopted. There were some additional measures used in this study that were not applicable in the Braddock Study (see Appendix B*).

The first stage of the model takes into account the socioeconomic status of the student's family, demographic attibutes, and pre-college schooling experiences. The operational measures to be used are sex, parental income, marital status and high school grade point average.

The second stage of the model focuses on the students' commitment to the University. The measures in this variable attempts to measure whether the University was their first choice; whether they will receive financial aid from the university, and whether the academic reputation of the school contributed to the students' college choice.

The third stage of the model considers the students' integration or "fit" into both the academic and social system of the University. Operational measures of this dimension included campus residence, expected college grades to be earned, and degree of student involvement in campus extra curricular (social and academic) activities.

The fourth stage of the model assesses subsequent levels of student commitment to the institution and its educational goals. The variables were be used to represent this dimension measured the student's level of satisfaction with assistance provided by the University in achieving educational goals, and whether or not the students would offer an unqualified recommendation of the University to a friend.

The dependent variable (dropout propensity) reflected whether or not students have given serious thought to withdrawing or not attending the university. If voluntary student attrition evolves as the result of a rational decision-making process by individual students, then a study of this nature may prove to be informative to understanding voluntary withdrawal at the University.

Method of Evaluation

For the purpose of this study, the questionnaire assessed attitudes, subjective perceptions of college environment, social environment, level of participation in

various on- and off-campus activities, and the demographics of enrollees in the Freshman class. A comparative analysis was made of males vs females.

Explanation of Evaluation Process

The purpose of this study is to investigate and modify an instrument by which the prediction of high risk withdrawal students can be accomplished. A useful outcome of this study will be to establish a profile chart that can be used as a guide to more adequately access the type of student being recruited by the university.

All freshmen programmed in the Freshman Orientation classes were given the Astin Prediction Scale to complete. The data given by the students were scored (see Prediction Scale, page 116) to identify whether a person was a strong candidate for withdrawal. The findings should prove to be valuable to Student Services in their counseling and advisement processes. The combined data obtained from the questionnaires was subjected to further analysis to help establish profile charts that can be used as guides to aide in the recruitment and retention programs offered by Student Services. The entire subset is used to describe the freshman class. These data were subjected to an ANOVA program, to identify the impact of each independent variable's influence on withdrawal propensity. The variable included socioeconomic status of students, family

demographic attributes and pre-college schooling; students' commitment to the university; students' integration or "fit" into the university; and students' commitments to the institution's educational goals. A coded scale was used so that these data sheets could be transferred to computer information sheets for computer program analysis (see Appendix C). The Statistical Package for the Social Sciences (SPSS), was used to analyze the data.

A multivariate regression analysis was obtained to see if there are significant statistical differences in the sub-sample. Where differences are found, these data can be further used in the recruitment and retention programs of the University.

Chapter IV

ANALYSIS OF DATA

The purpose of this study was to investigate and modify an instrument through which the prediction of high risk withdrawal students from an emerging state university can be accomplished. A useful outcome of the study will be to provide student services at the university with student data that will be relevant to the reduction of the student withdrawal rate. The primary objective was to determine the effect of the socioeconomic status of the students' family, demographic attributes, and pre-college integrating schooling experiences; the individual students' commitment to the university; the students' integrated or "fit" into both the academic and social system of the university and the students' commitment to the institution and its educational goals and how each affects the withdrawal rate at the university.

These collected data were analyzed statistically by employing a multivarate regression analysis. Cumulatives and percentages were also obtained to ascertain the differences that may exist mathematically.

To determine if statistically significant differences existed between males and females due to the various

independent variables impact on the dependent variable withdrawal, an analysis of variance (ANOVA) was employed. The Astin Prediction Scale (see Appendix A) was utilized in ascertaining the precise origin of the differences defined by the ANOVA.

Description of Findings

Other studies have investigated the impact of various variables on the propensity of students to withdraw from school. However, very little information has been provided concerning the relationship of the students' socio-economic status; commitment to the university; the students "fit" into the social and academic system of the university; and the students' commitment to the institution and its educational goals with the intent of being able to predict those students who are most likely to withdraw from a traditionally black institution.

A previous investigation (Braddock 1981) conducted a study where he analyzed the academic background, family background, education aspiration, study habits, financial aid, college involvement and satisfaction that black students have with both black and white institutions where blacks were enrolled. His findings show that the retention rate is higher at the traditionally black institution than that for students at TWIs primarily because of the type of programming that occurs at the TBIs.

For the purpose of this investigation, an entire freshman class at the emerging state university was targeted as the population. However, there were only 334 out of 524 students who completed and/or participated in the study. In order to explain the differential, the following offerings are made; there was a special group of students in the honors program who had special housing and counseling who were not included in regular class programming (n=45). Due to class scheduling, some freshmen and transfer students were not programmed in the Freshman Orientation classes where the questionnaire was administered. Consequently, they were not able to complete the questionnaire because the study was administered the first three weeks of the Fall semester 1985. Some students did not enroll until the second semester. Approximately 145 students were not programmed until the second semester. A total of 190 students was not tested. For the 334 students that were administered the Astin Prediction Scale, data were collected and tabulated in order to predict each student's chance in one hundred of dropping out or withdrawing.

Withdrawal

The overall withdrawal of freshmen at the emerging state university for academic year 1986-87 totalled sixty-six (66). However, 46 of the 66 students who

withdrew were not included in the study because they were identified as being a part of the 190 students tested.

The University's Monthly Summary Withdrawals sheet reveals that an explanation of what constitutes a withdrawal is needed. According to the Registrar's office, when students come to Freshman Orientation, they are assigned an advisor, pre-registered and given a class load which is computerized. If the student pays the required fees and completes the enrollment acknowledgement card, he is considered enrolled. However, if during the time of pre-registration and start of the student's first class, he chooses not to attend a class and never comes to school, the student will appear as a withdrawee. In the fall semester 1986-87, ten (10) students in the freshman class withdrew prior to full attendance. This left a total of fifty-six (56) students who withdrew after some attendance. For this study, a student must have attended at least one class before they are considered to be a withdrawee.

As stated, in prior research, (Barr 83, Terkla 83, Glennen and Baxley 85), advisement can be so crucial in the retention of all students. The university could enhance its recruitment and advisement by reviewing its process of student advisement from the time a student arrives until graduation. Thus far, this Research warrants such an investigation. Further, printed material relative to

student withdrawal at the university would be greatly improved if student data was more accurate.

In review of all withdrawal data available, only twenty (20) students who completed the questionnaire withdrew. That left a total of thirty-six (36) students who were not tested that withdrew. Since they were not tested, they will not appear in the study. According to the answers given on the Prediction Scale, estimate of dropping out,47.8% of students that answered, indicated that there was some chance of withdrawing. They also indicated that 47.9% saw some chance of transferring (See Table 1). One important thing to remember regarding this study is that withdrawal or dropout data refers to four-years attendance. This study addresses the findings of one (1) year.

The following predictions are made based on findings provided by the 334 students who completed the questionnaires used in the study. All participants could have scored between 1 to 100 chances in 100 of dropping out. The lowest score for this group of students was 13 in 100 chances of dropping out and the highest was 49 in 100 chances of dropping out. In order to make an explanation of the findings, the information is reported in upper and lower halves of predicted chances in 100 of withdrawal (see Table 1A-1).

According to the data, 29% of the freshman class surveyed appeared in the lower half (i.e., 13-30) chances in 100 of withdrawal. On the other hand, 71% of the same class appeared in the upper half (31-50) chances in 100 of withdrawal. Of the 20 students who actually withdrew, 25% (N=5) was identified as in the lower half of predicted withdrawal; while 75% (N=15) was identified as in the upper half of predicted withdrawal (please refer to Table 1A-1).

As shown in preceding paragraphs, the prediction comes remarkably close to the actuality. The present findings warrant further usage with predictions to further test its utility at the University.

Table 1A shows that of the 524 students in the freshmen class, only 334 students are included as part of the study. It also reveals that of the 334 tested, only 20 withdrew from the university. The frequency distribution column illustrates that there were only four intervals that the 20 students who withdrew appeared. The most dominant interval was 39-36 where the prediction of .299 or .30% was made. The actual withdrawal also provided the greatest contribution .35% with a total of seven (7) students identified.

The second highest withdrawal number five (5), came from the 19-16 interval on chances of dropping out. This

Table 1

Student Estimates of Dropout Chances

N=334

1986 Estimate of Dropout Chances	Actual Number	Actual Percentage
Temporarily		
(1) No Chance	233	68.5
(2) Very little chance	74	21.7
(3) Some chance	24	7.1
(4) Very good chance	66	19.0
Transfer		
(1) No chance	119	35.0
(2) Very little chance	69	20.2
(3) Some chance	94	27.7
(4) Very good chance	0	0.0

Note: Duplication of answers could occur in cases where students were not sure.

Table 1A-1

Comparison of Predicted/Actual Withdrawals

1986-87 Freshmen

Chances in 100 of Withdrawal *	Predicted Withdrawal	Actual Withdrawal
Lower Half (13-30)	29% (N=97)	25% (N=5)
Upper Half (31-48)	71% (N=237)	75% (N=15)
Total	100% (N=334)	100% (N=20)

* Scores are reported as chances in 100 of dropping out. Therefore, a student may score from 1 to 100.

Table 1A

Percentage of Withdrawal

N=334

Chances of 100 of Drop. Out	Frequency	Percentage Withdrawal	Actual W/Draw.	Percentage of Act. W/Draw
51-48	1	.003	-	-
47-44	6	.018	-	-
43-40	37	.114	4	.20
39-36	100	.299	7	.35
35-32	86	.257	4	.20
31-28	24	.072	-	-
27-24	5	.015	-	-
23-20	6	.018	-	-
19-16	60	.180	5	.25
15-12	9	.027		
	334		20	100%

Table 1A shows frequency of chances in 100 of dropping out, percentage of withdrawals, actual number who withdrew, and percentage of actual withdrawals.

constituted .25% of total withdrawals and a prediction of about .18%. It might be advisable to investigate further to identify why there are so many students (60) at this level who were predicted to withdraw.

Interval 43-40 and 35-32 had four (4) students each to withdraw. This represented .20% withdrawal respectively.

The expected percentage of predicted withdrawal indicates that there are some differences when reviewing the actual withdrawal percentages. For example, interval 39-36 predicted .30% withdrawal and had .35%; interval 19-16 predicted .18% withdrawal and had.25%; interval 35-32 had .26% prediction and .20% actual; and interval 43-40 had .11% prediction and .20% actual withdrawal. Although not conclusive, the assumption can be made that the Astin's Prediction Scale can assist in identifying areas where the most likely withdrawal will occur (see Table 1B).

High School Grade Average; Parental Aid: Type of Work by Freshmen; Residence or Housing Status; and Size of Hometown Impact on Persisters and Withdrawees

Grade Point Average

Table 2 shows that the freshmen students who entered the emerging state University with a high average of C or

Table 1B

Percent of Withdrawal by Class

(Withdrawal-N 122)

(Freshmen, Sophomores, Juniors, Seniors)

	Male	Female	Percentage of Total Withdrawals
Freshmen	28	38	66
(percentage)	(42%)	(58%)	(54%)
Sophomores	7	16	23
(percentage)	(30%)	(70%)	(19%)
Juniors	3	17	20
(percentage)	(15%)	(85%)	(16%)
Seniors	3	6	9
(percentage)	(33%)	(67%)	(.07%)
Special/Transfers	1	3	4
(percentage)	(25%)	(75%)	(.03%)
Total	42	80	122

Table 1B. Shows the total number of males and females-Freshmen through Seniors who withdrew during the 1986-87 year.

Table 2

Retention-Related to Average High School Grade

Estimated Avg. H.S. Grade	Predicted Persisters (percentage)	Predicted Withdrawals (percentage)	Total % of Population
A or A+	89.1%	10.9%	0.3%
A-	83.8	16.25	2.6
B+	69.	31.0	8.5
B	75.2	24.8	20.3
B-	77.7	22.3	18.5
C+	60.2	39.8	32.6
C	51.8	48.2	15.9
D	48.3	51.7	1.2

Table 2. The retention of College Freshmen relative to average high school grade.

better had a greater than 50% chance of being retained by the University and students who were admitted to the University with a grade of less than C had only a 48% chance of being retained by the University. Thus, for the 1985-86 academic year, the University had a 48.3 to 89.1% chance of retaining each one of the students whose grade averaged from D through A.

Figure 1 shows that of the students who withdrew from the university during the 1986-87 academic year, fewer students with "C" averages withdrew than expected. However, more students with "A" and "B" averages withdrew than expected.

To help defray the cost of their college education, many of the students with "C" averages find on-campus and/or off-campus jobs in order to supplement the aid or funds provided by their parents. These students are carrying full (18 hrs) class schedules as may be the case with students with "B" or "A" averages. Consequently, some "A" or "B" students whose parents cannot provide them additional finance, almost invariably withdraw officially or unofficially. Many academically talented black students come from homes where very few have siblings or parents with little or no college education and fall in the lower income brackets. The major factors that determine the success

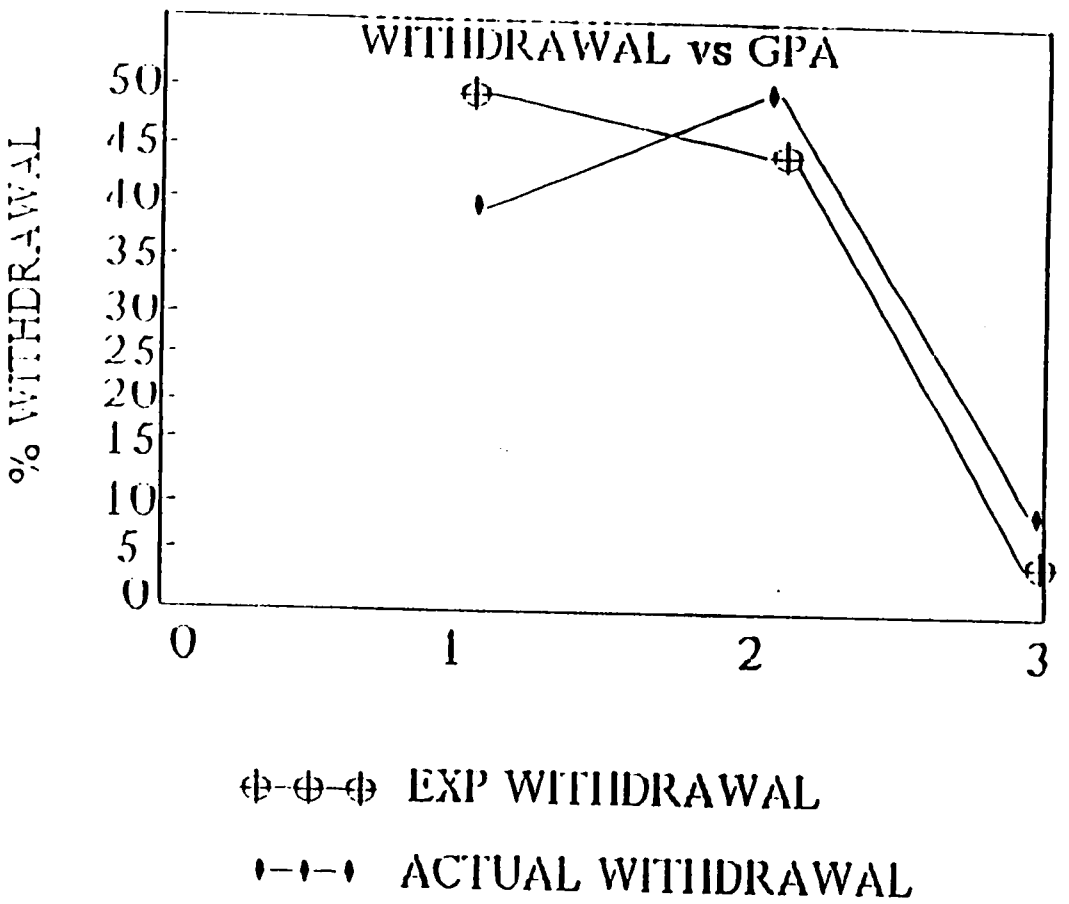


Figure 1. Shows the percent withdrawal of students at the emerging state university vs. GPA during the 1986-87 Academic Year.

Scale.....1 equals grade C
2 equals grade B
3 equals grade A

of black students seem not to be prior educational exposure, or income, but rather learning that academics may be geared towards love, interest, and motivation by parents, relatives, teachers, community leaders, and even immediate educational exposure. This is not to say that prior educational and cultural exposure and finance do not play an important role in the success of black students. However, it does mean that when these factors are absent or hardly visible, black students usually prove successful during their development when the other mentioned factors have flourished in the pathways of their development from childhood to adulthood.

Parental Aid

Table 3 shows the freshman students who did not receive financial aid from parents had a 7.1% male dropout rate and a 15% female dropout rate.

Students who received only a minor amount of aid from parents had a 12.4% withdrawal rate for males and a 15.% dropout rate for females....whereas the males who receive a major amount of aid from a parent show a 20.6% dropout rate for males and 26.5% dropout rate for females (see Table 3).

Figure 2 shows that when either male or female students list or use parent support as a major or minor source of income to pay for their college expenses, the actual dropout rate is greater in each case than for the

Table 3

Effects of Parental Aid on Dropout Rates

(Percentage)

Extent of Parental Aid	Male		Female	
	Actual Dropout Rate	Expected Dropout Rate	Actual Dropout Rate	Expected Dropout Rate
Not a Source	7.1	13.6	15.0	28.8
Minor Source	12.4	23.7	18.5	35.6
Major Source	20.6	39.5	26.5	50.8

Table 3. Exact and Actual effect of Parental Aid of dropout rate relative to the entire freshman class of 1986-87.

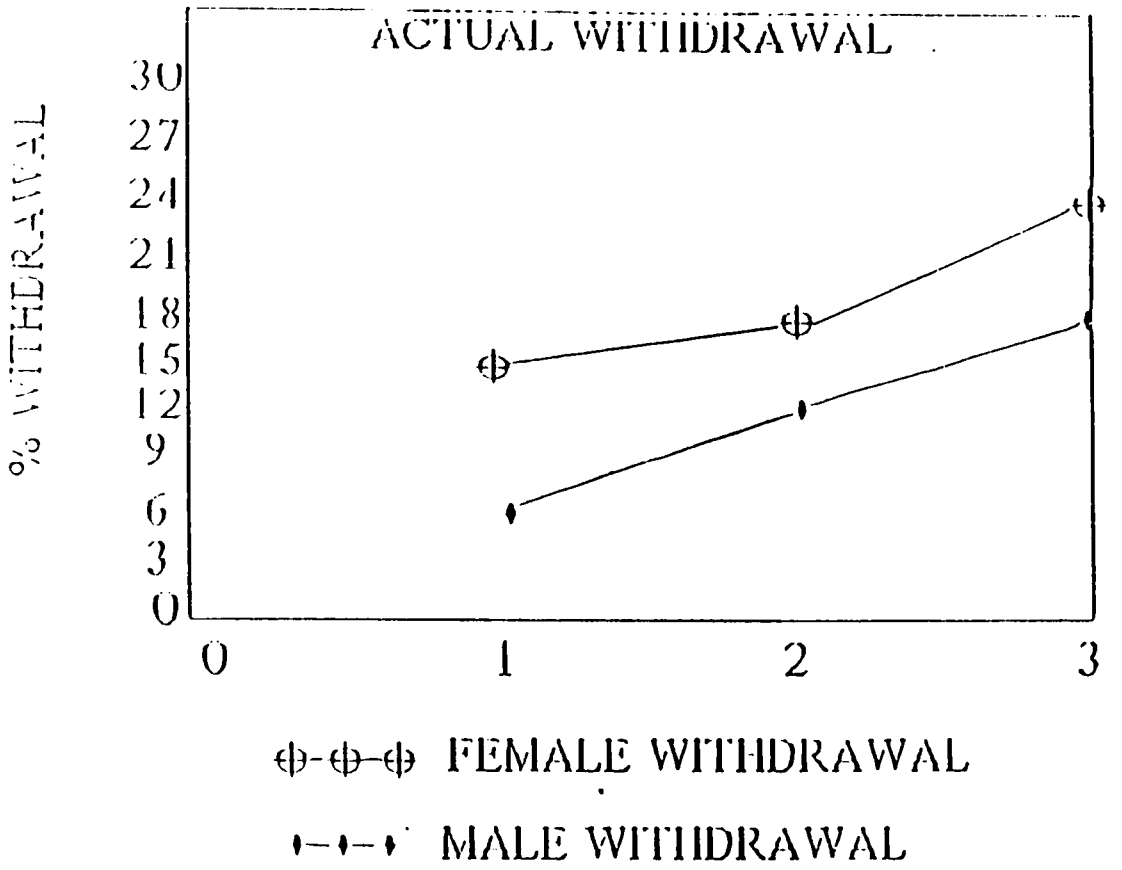


Figure 2A. Shows the percent of male and female students who actually withdrew from the university during the 1986-87 academic year relative to parental support.

Scale.....1 = NO PARENT SUPPORT

2 = MINOR SUPPORT

3 = MAJOR SUPPORT

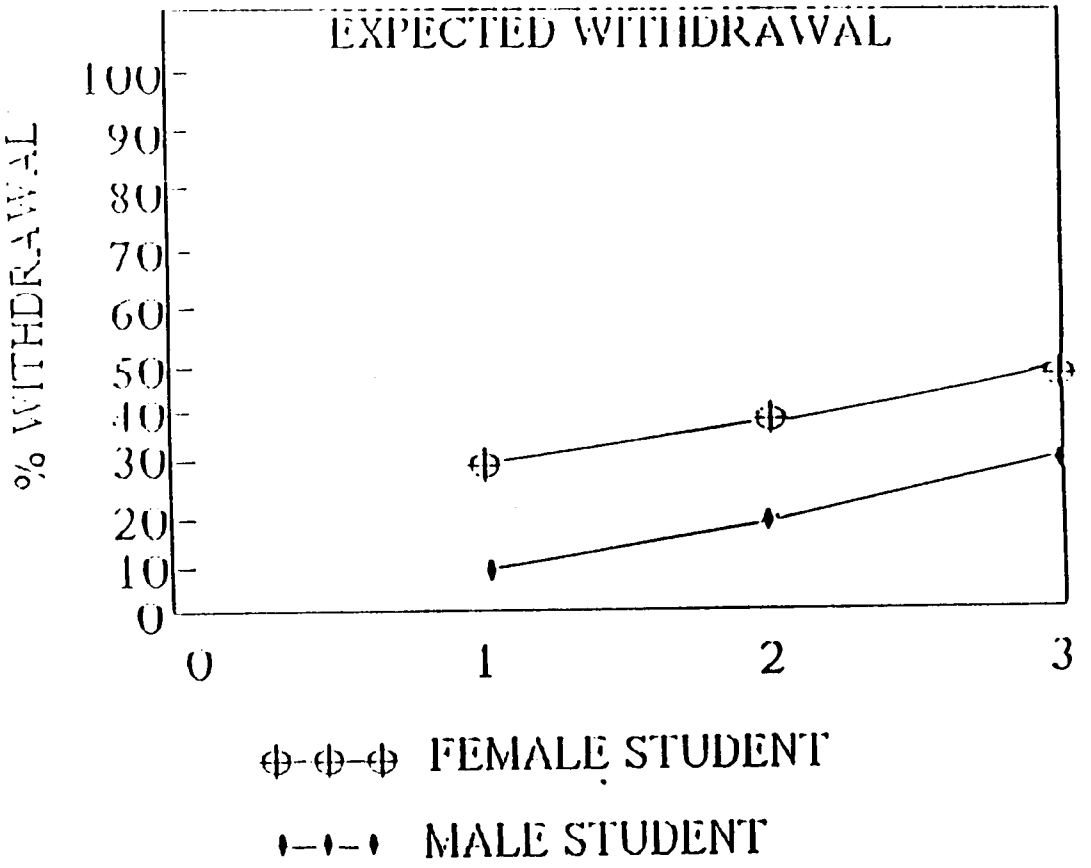


Figure 2B. Shows the percent of male and female students among the number of students who were expected to withdraw from the university during the 1986-87 academic year.

Scale.....1 = NO PARENT SUPPORT
2 = MINOR SUPPORT
3 = MAJOR SUPPORT

students who do not receive any amount of financial support from parents. Surprisingly, those students who do not receive any financial support from parents are academically prepared students who are supported by scholarships or some special grants or programs. Therefore, attention should be focused on the students whose parents are listed as the major source of financial aid.

In order to initially matriculate at the University for the first or beginning semester, a student must have at least one third the cost for that particular semester and the remainder must be paid before the student can matriculate with respect to the succeeding semester. With this fact in mind, attention must be given to the financial conditions of the students' parents and their ability to assist with students' financial obligations.

According to the financial aid officer, the average family income of families with students at the university is approximately $10,000. Those families who do not have three to six children with two or three ranging from elementary through college age either have to pay their children's college expenses from casual savings or from a loan for which they barely qualify. In many cases, the family cannot repay the initial loan by the terminal phase of the loan contract nor by the start of the next semester.

In cases where loans are in arrears -- or were once in arrears although paid off, the lending community in all probability will not allow the loanees to borrow additional funds. Thus, in most cases, this means sure withdrawal of students from the university because of the lack of funds.

In cases where this happens, and the student's loan covers only a partial of the cost for the first semester, along with the fact that the students have financial needs that go beyond the ordinary tuition and fees cost, students have a tendency to withdraw or dropout from the university during or immediately after the end of the first semester. The worries, pressures, and personal problems coupled with financial problems that are not directly related to academics drastically affect academic performances.

In order to prevent or significantly decrease students' chances of having to withdraw from the university due to the lack of finance, the following procedure could be considered:

Type of Work by Freshmen

Table 4 shows that of all freshman students who worked five to nine hours per week on a federally sponsored work study. The percentage of male and female students who dropped out of college during their freshman year but worked between 5-9 hours per week is given in Table 4.

Table 4

Types of Work By Freshmen

(Percentage)

Employment	Based on Separate Per'Item Male/Female		Based on Numbers of Males/Females		Total Population Male/Female	
Federally Sponsored W/Study Program	37.4	62.6	40.4	45.1	16.2	27.1
Oth. On-Campus Wk.	47.3	52.7	19.1	14.2	7.6	8.5
Off-Campus Work	41.7	58.3	11.0	10.3	4.4	6.2
Employment for College Credit as Part of Departmental Program	55.2	44.8	11.8	6.4	4.7	3.8
Number of Hours Per Week	5-9	5-9	5-9	5-9	5-9	5-9

Table 4. Freshmen who withdrew during the 1986-87 academic year relative to types of work.

Both male and female students who worked on federally sponsored work study jobs and other on-campus jobs had a slightly higher withdrawal rate than students who worked off-campus or were employed for college credit (Figure 3).

On-campus jobs may be insufficient to secure each student beyond the tuition and fee payments, not to mention other financial needs that face the average college student. Thus, most off-campus jobs pay about one dollar more per hour than federally sponsored work study programs or other on campus jobs. In many instances, off-campus jobs not only give students more incentive to do well and stay in school, but higher wages that these jobs provide relative to on-campus jobs provide them with more funds to finance some of their needs, both college and non-college related.

Since small traditionally black institutions are not likely to be able to provide jobs for most college students nor is the local community, these two entities must keep acting in concert to keep the student work force mobilized and active. In either case, the withdrawal rate is not significant.

Types of Residence of Housing During Freshman Year

Relative to residence or living quarters, Table 5 shows that a greater percent of the withdrawals were females

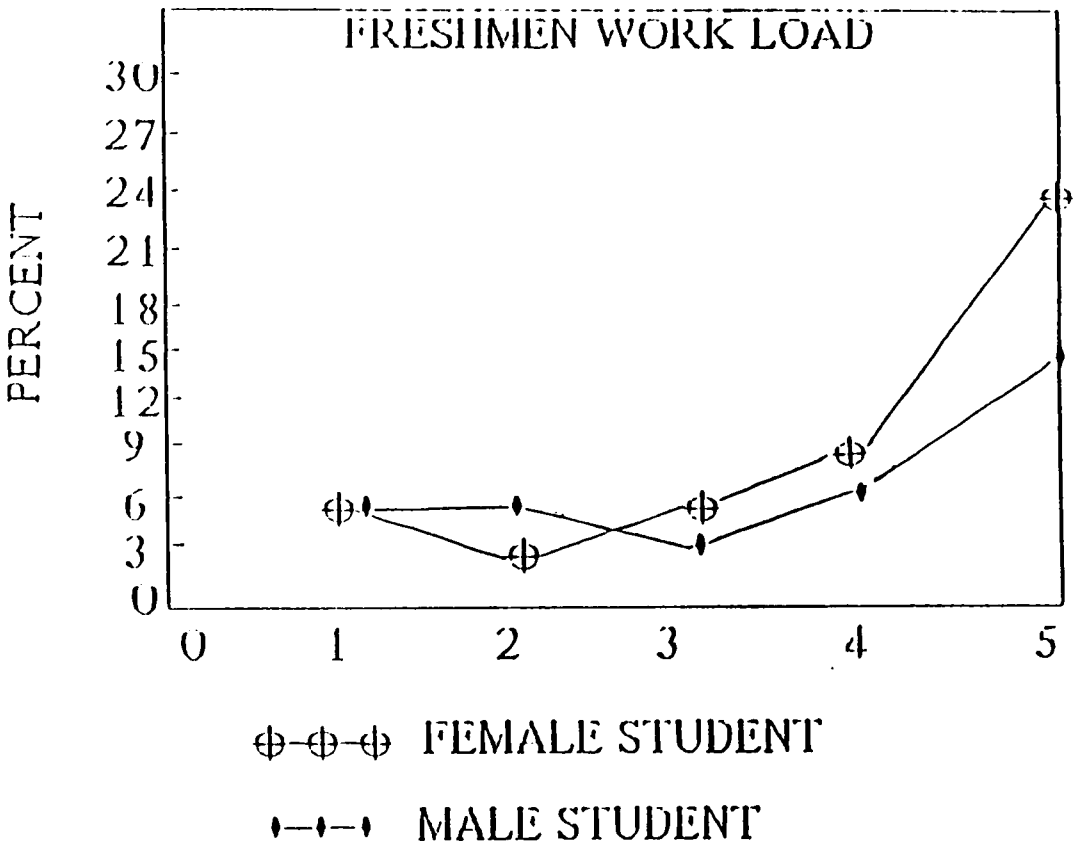


Figure 3. Shows the withdrawal rate of the male and female by percent who withdrew from the university during the 1986-87 academic year who worked.

Scale.....5 = FEDERALLY SPONSORED WORK STUDY

4 = OTHER ON CAMPUS WORK

3 = OFF-CAMPUS WORK

2 = EMPLOYMENT FOR COLLEGE CREDIT

1 = NUMBER OF HOURS WORKED PER WEEK

Table 5

Residence During First Year

Place of Residence	Percentage Men	Percentage Women	Population Men	Population Women	Total Men	Total Women
College Dormitory	43.7%	56.3%	108	139	247	
With Parents	33.9%	66.1%	20	39	59	
Other	28.6%	71.4%	8	20	28	
					334	

Table 5. Freshman withdrawal during the 1986-87 academic year with report to the place of residence.

than males regardless of the living arrangement; i.e., whether living on campus, off campus, with parents or other. The highest withdrawal rate comes from other arrangements, where the rate was 71.4%.

Figure 4 shows the percent of students and their place of residence who withdrew from the university. These data suggest that there was a higher percentage of female than male students who lived in a residential setting other than the college dormitory (56.3 female - 43.7 male) and with parents (66.1% female - 33.9% male). There were 247 students who lived in the dormitory (108 male - 139 female); there were 59 who lived with their parents (20 male - 39 females); and 28 had other living arrangements (8 male - 20 female). In each living arrangement the percentage of females was higher than males. Category 1,"Other", more than doubled. These data suggest that there is a less likely chance of withdrawal difference between males and females if they reside on campus.

Figure 4 shows that female students who live in college dormitories have a higher withdrawal rate than females living with parents or other off-campus housing. However, just the opposite exists for male students. Thus, withdrawal of male students who live in the dormitory is

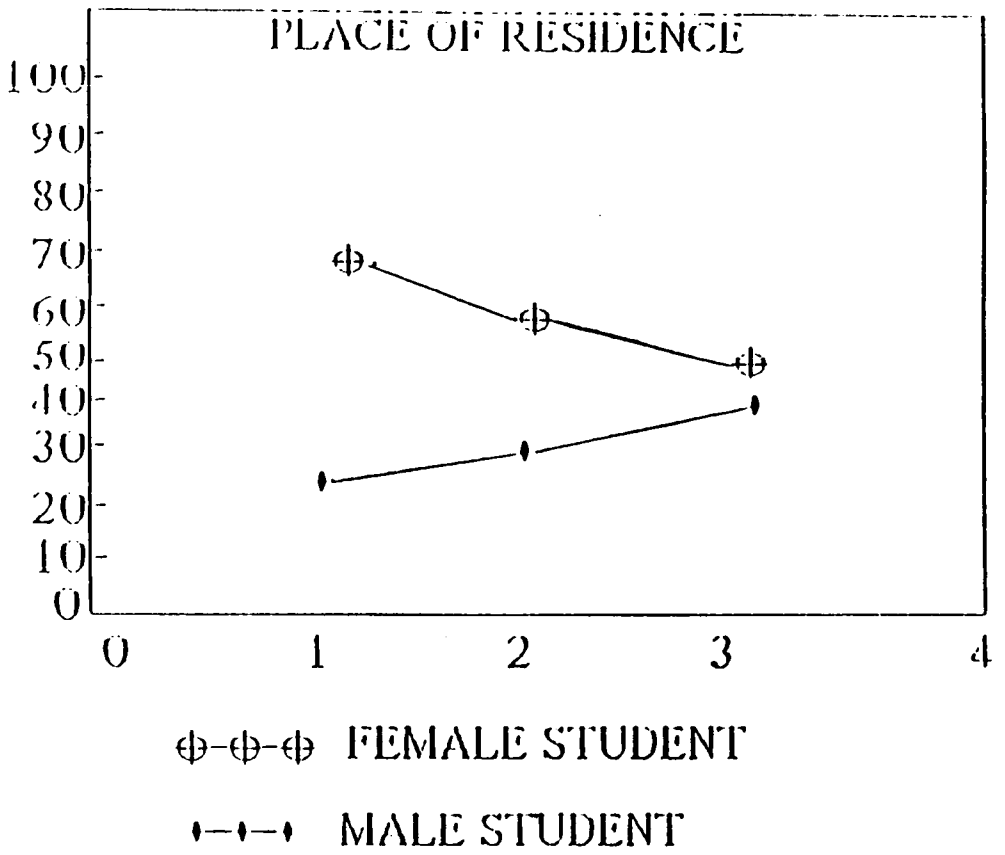


Figure 4. Shows the percent of male and female students who withdrew from the university relative to their place of residence during their freshmen year.

Scale.....3 = COLLEGE DORMITORY

2 = WITH PARENTS

1 = OTHER

lesser than withdrawal of male students who live with parents or in other off-campus housing.

As stated in Figure 4, those female students who for the first time are placed in decision-making roles, independent of parents or guardians, find it more frustrating and distracting in terms of being able to adjust to the academic and social responsibilities deemed necessary for a productive or successful freshman year of college studies.

Size of Hometown Relative To Withdrawal Rate

Male and female students who lived in moderate size towns and larger cities, small towns, and farms are given in Table 6. The withdrawal rate was larger for the students from moderate size cities and small towns than for students from the farm.

Whether from a farm, a small town or moderate size city, the percentage withdrawal rate of females was higher than males (Figure 5). This could be attributed to the fact that a slightly higher percentage of females attend the university than male students. The percentage of female students with farm backgrounds is very much higher than males and female students of college age (nationwide). This trend has reversed since the early 1960s when many more male students were needed to carry

Table 6

Size of Hometown Impacts on Persistence

Location of Hometown	Men	Women	Total Population
Farm	23.26%	76.74%	43
Small Town	39.38%	60.63%	160
Moderate Size Town or City	41.63%	58.37%	209

Table 6. Freshman withdrawal during the 1986-87 academic year based on size of hometown.

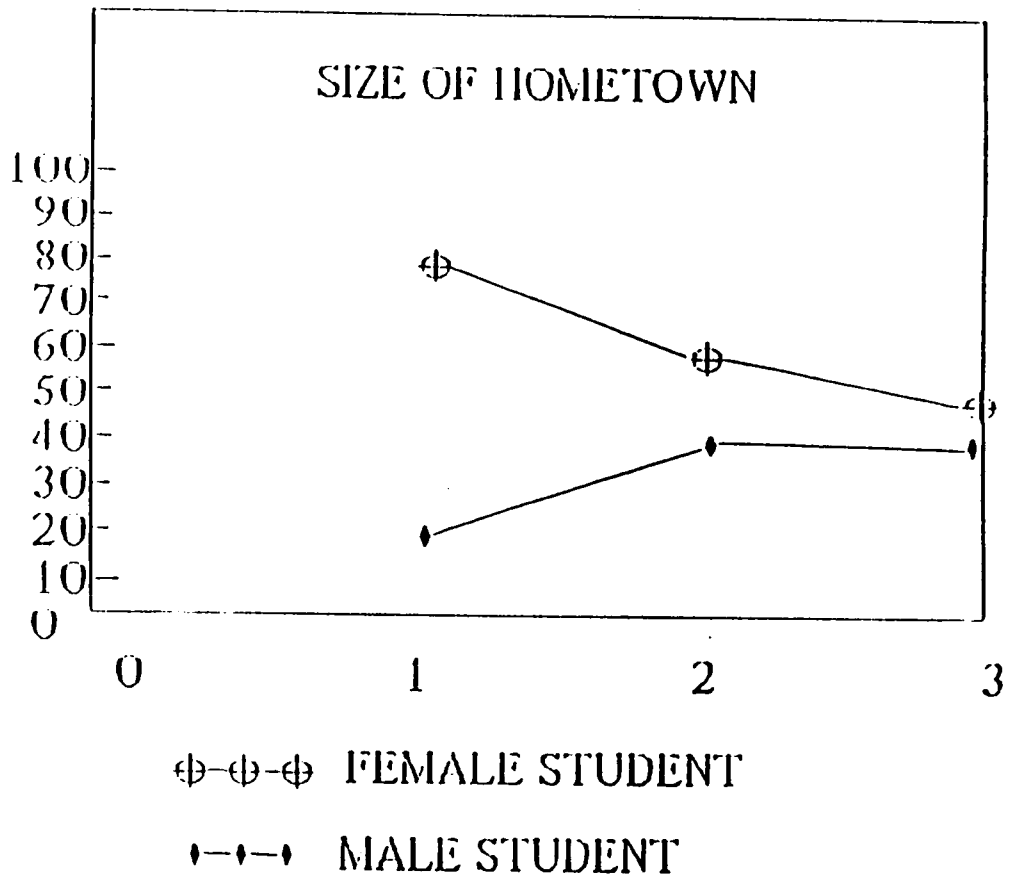


Figure 5. Shows the percent of male and female students who withdrew relative to the size of the hometown.

Scale.....3 = FARM

2 = SMALL TOWN

1 = MODERATE SIZE CITY

out farm chores than is the case today. Technology has significantly decreased such a need. However, at the same time it is difficult to see where it has demanded such an increase in female withdrawal from college.

According to Figure 5, the size of a student's hometown has a significant influence upon student withdrawal; however, hometown size affects female student withdrawal more so than male student withdrawal. The propensity for female students to withdraw from college at a higher rate than males is because many females start assuming decision-making responsibilities for the first time after leaving home for college, regardless of hometown size, whereas more male students regardless of hometown size have had a greater amount of experience in decision-making before leaving. Therefore, the decision-making process for male students is not as frustrating or distracting as it is for female students.

Description of Regression Model for the Predictions

To explain the findings in this study, three separate tables will be adopted to assist in further explanation of these data. Each table will use the results of the multivariate regression for males, females and combined results of freshman students attending the emerging state university.

Table 7 shows the multivariate regression results for females (N=198) attending the university. It is noted, from the totals in column one, that the socioeconomic status when combined, accounts for only a small portion (8%) of the total variance in the propensity of female freshmen to withdraw from the university.

When commitment to the university (Step 2) is included, an additional 38% of variance is shown, which brings the total to 45%. In Step 3, inclusion of the integration or "fit" into the university's social and academic community does not represent as great of an increase toward the total variance as does Step 2. An increase of 16% is noted, which brings the total to 61%. When Step 4 is added, which brings the total to 73%, a decrease is found. This variable represents the second lowest total increase (12%) of all four variables.

In comparing these data with data arrived at by using the same measures for male freshmen attending the university, a difference is noted. Table 8 presents the results of the multivariate regression analysis for male students (N=136) who enrolled in the Fall of 1986. Re-examining the figures in column one of Table 8, it is noted that the socioeconomic status variable for male students had 13% of the total variation in the propensity to withdraw among male students attending the university.

Table 7
Factors Influencing The Propensity Of Students To Withdraw
(Females)
N=198

	Step 1	Step 2	Step 3	Step 4
Q54	.107	.083	.033	.008
	(.107)	(.107)	(.107)	(.107)
Q42	.078	.182	.056	.199
	(.116)	(.116)	(.116)	(.116)
Q2	-.069	.076	-.159	-.212
	(.132)	(.132)	(.132)	(.132)
Q1	.234	.396	.330	.239
	(.235)	(.235)	(.235)	(.235)
Q41		.307	.333	.335
		(.330)	(.330)	(.331)
Q21		-.323	-.081	-.416
		(-.064)	(-.064)	(-.064)
Q23		-.289	-.310	-.259
		(-.290)	(-.290)	(-.290)
Q22		-.291	-.537	-.283
		(-.291)	(-.291)	(-.291)
Q45			-.028	-.045
			(-.104)	(-.104)
Q29			-.063	-.251
			(-.081)	(-.081)
Q31			.016	-.109
			(.036)	(.036)
Q44			-.021	-.191
			(-.193)	(-.193)
Q61			-.035	-.043
			(.017)	(.017)
Q38			-.143	-.284
			(-.216)	(-.216)
Q57			-.084	-.105
			(-.027)	(-.027)
Q58			-.139	-.079
			(-.190)	(-.190)
Q60			-.156	-.194
			(-.178)	(-.178)
Q59			.192	.101
			(.026)	(.026)
Q49			.204	.178
			(.204)	(.204)
Q63				.111
				.214
Q64				-.028
				(-.081)
Q62				.068
				(.057)
Q58				-.079
				(-.190)
Q56				-.246
				(-.047)
Q17				.230
				(.231)
Q57				-.105
				(-.027)
R^2	.075	.45	.61	.73

Multiple Regression Results Females

*Q and number represents question in questionnaire

Table 8
Factors Influencing The Propensity Of Students To Withdraw
(Males)
(N=136)

	Step 1	Step 2	Step 3	Step 4
Q54	.055	.032	.018	-.009
	(.055)	(.055)	(.055)	(.055)
Q42	.0379	.337	.321	.319
	(.349)	(.349)	(.349)	(.349)
Q2	.018	.014	.104	.291
	(.070)	(.070)	(.070)	(.070)
Q1	.006	-.008	.010	-.107
	(.004)	(.004)	(.004)	(.004)
Q41		.186	.095	.184
		(.190)	(.190)	(.190)
Q21		.011	.089	.178
		(.213)	(.213)	(.213)
Q23		-.094	-.098	-.059
		(-.095)	(-.095)	(-.095)
Q22		-.241	-.266	-.231
		(-.241)	(-.241)	(-.241)
Q45			-.262	-.274
			(-.330)	(-.330)
Q29			-.224	-.348
			(-.163)	(-.163)
Q31			-.047	-.020
			(-.196)	(-.196)
Q44			.127	-.074
			(-.223)	(-.223)
Q61			-.246	-.268
			(-.309)	(-.309)
Q38			-.276	-.257
			(-.257)	(-.257)
Q57			-.169	-.128
			(-.162)	(-.162)
Q58			-.044	-.134
			(-.103)	(-.103)
Q60			-.067	-.061
			(-.031)	(-.031)
Q59			.129	.081
			(.061)	(.061)
Q49			-.145	-.152
			(-.145)	(.145)
Q63				.114
				(.102)
Q64				.049
				(-.057)
Q62				.284
				.011
Q58				-.134
				(-.103)
Q56				.024
				(.109)
Q17				-.091
				(-.091)
Q57				.128
				(-.162
R^2	.114	.197	.414	.519

Multiple Regression Results Males

*Q and number represents question in questionnaire

When commitment to the university (Step 2) is included, an additional (7%) of variance is arrived at which brings the total variance to (20%). In Step 3, inclusion of the integration or "fit" into the university's social and academic community represents 41% of the total variance in the propensity to withdraw. The increase from (20%) to (41%) represents an increase of (21.7). After the inclusion of Step 4, educational goals, the total variance is (52%). This represented an increase of (11%).

When both groups (male and female) are combined, percentages in R^2 changed considerably. Table 9 presents the multivariate regression results for all Freshman students studied at the university. In column 1, 6% of total variance occurred for the socioeconomic status variable. This represents a small portion of the total variance.

After the inclusion of "commitment to the university" (Step 2), the total variance changed to 14%. Step 3, integration or "fit", increased the total percentage an additional (10%) which now shows a total variation of (24%). The single greatest jump occurred with the inclusion of Step 4 (Educational Goals of the University).

Commitment to the university (Step 4) shows a total variance of (73%) for women and (52%) for men. In each step, the increase is approximately the same. For women

Table 9
Factors Influencing the Propensity of Students To Withdraw
Men/Women
N-334

	Step 1	Step 2	Step 3	Step 4
Q54	.14	.14	.088	.151
	(.14)	(.14)	(.14)	(.140)
Q42	.191	.197	.163	.231
	(.193)	(.194)	(.187)	(.187)
Q2	.038	-.034	-.051	-.028
	(.087)	(.082)	(.086)	(.085)
Q1	.042	.076	.04	.070
	(.078)	(.078)	(.076)	(.076)
Q41		.239	.266	.219
		(.238)	(.237)	(.237)
Q21		-.219	.317	-.291
		(.034)	(.036)	(.036)
Q23		-.149	-.143	-.145
		(-.152)	(-.144)	(-.143)
Q22		-.195	-.22	-.186
		(-.195)	(-.213)	(-.213)
Q45			-.13	-.183
			(-.196)	(-.196)
Q29			.085	.080
			(.025)	(.025)
Q31			.114	.096
			(.059)	(.059)
Q44			-.152	-.059
			(-.150)	(-.233)
Q61			-.143	-.131
			(-.177)	(-.177)
Q38			-.269	-.264
			(-.266)	(-.266)
Q57			.047	-.065
			(-.064)	(-.064)
Q58			-.152	-.102
			(-.150)	(-.150)
Q60			-.073	-.022
			(-.068)	(-.068)
Q59			.086	.038
			(.029)	(.029)
Q49			.015	.021
			(.015)	(.015)
Q63				(.181)
Q64				(.182)
				.015
Q62				(-.071)
				-.020
Q58				(-.066)
				-.102
Q56				(-.150)
				-.001
Q17				(-.024)
				.046
Q57				(.045)
				-.065
				(-.064)
R^2	.06	.14	.24	.38

Multiple Regression Results Male/Female

*Q and number represents question in questionnaire

the increase was 12% which brought their total variance to 73% and the men increased 11%, which brought their total variance to 52%.

The findings suggest that if it were left to the socioeconomic status (Step 1), adjustment at the university would be more difficult for males than females. However, if we included Step 2, commitment to the university, the shift would be a dramatic negative change towards women. If left to this factor, women would have the most difficult time adjusting. Steps 3 and 4 do not represent a significant difference in the total variance for either group. When combined, female students increased a total of 28% total variance, as opposed to 32% for men.

Finally, when both groups are combined, the figures are greatly reduced (see Table 10). The socioeconomic status is reduced to (6%) which is lower than either individual category. Commitment to the university represents 14% of the total variance which is also lower than either of the individual steps. Step 3, integration or "fit" of the combined group total variance shows a 10% increase which brings that total to 24%. When Step 4 is included, to the combined group, it was found that the "commitment to the educational goals" represented the greatest increase (14%). The inclusion of Step 4 brings the combined group's total variance to 38% which is only 1% greater than Step 2, 37% for females.

Table 10

Total Variance of Factors Influencing the Propensity of Students to Withdraw

N=334

R^2

Variables	Women N=198	Men N=136	Combined N=334
Socioeconomic Status	8%	13%	6%
Commitment to the University	45%	20%	14%
	(37%)*	(7%)**	(8%)*
Integration or "Fit"	61%	41%	24%
(Academic or Social)	(16%)**	(21%)*	(10%)*
Commitment to Educational Goals	73%	52%	38%
(Residence & Finance)	(12%)**	(11%)**	(14%)*

*Increase & Percentage

**Decrease & Percentage

Discussion

The multivariate regression analysis provided an opportunity to examine the propensity of students to withdraw from the university on three levels. It provided data for the comparison of males, females and the total freshman population. In comparison, (see Table 10) you will note a 52% and 73% of variance in the propensity of male and females, respectively, to drop out or withdraw from university. In relation to the step to step progression commitment to the university, had the single greatest impact on the total variance. In the case of females, we will note a 37% increase of total variance for females. However, this was not the case for males. Integration or "fit" (21%) had the single greatest impact upon the male total variance. When comparing the individual differences that existed in Step 2 for females and Step 3 for males, these gathered data suggest that in comparing these steps in the combined total variance, there was not a significant jump in either step of the combined findings as found in male and female groups.

Commitment to the university (Step 2) for women, represents slightly more than 50% of the total variance for women. The single greatest impact on the total variance for men came from (Step 3) integration of "fit" (40%).

If we compare the impact of each variable's effect on the total variance as it relates to men and women at the university, we see that the socioeconomic status had very little impact on the total variance for each (8% women, 13% men) group. Step 2 presents a totally different explanation where there was no consistency in the findings. As previously stated, there was a (37%) increase in the total variance which brought the total to 45% for women. The impact on the total variance was not as great for men. There was an 8% increase which brought that total to (14%). The assumption can be made that commitment to the university affects women at a much higher rate than men. In Step 3, integration of "fit" had the single greatest impact for men. There was a (21%) increase in the total variance for men which increased the total percentage to (41%). For females, the change was slightly lower. They had an increase of (16%) which was lower than the men but represented the second highest increase in their total variance.

Commitment to the university (Step 4) shows a total variance of (73%) for women and (52%) for men. In each step you will note an increase that is approximately the same. For women the increase was (12%) which brought their total variance to (73%) and the men increased (11%), which brought their total variance to (52%). Findings suggest

that if it were left to the socioeconomic status, Step 1, adjustment at the university would be more difficult for males than females. However, if we included Step 2, commitment to the university, the shift would be a dramatic negative change towards women. If left to this factor, women would have the most difficult time adjusting. Steps 3 and 4 do not represent a significant difference in the total variance for either group. When combined, female students increased a total of 28% as opposed to 32% for men.

Finally, when both groups are combined, the figures are greatly reduced (see Table 10). The socioeconomic status is reduced to (6%) which is lower than either individual category. Commitment to the university represents 14% of the total variance which is also lower than either of the individual steps. Step 3, integration or "fit" of the combined group total variance shows a 10% increase which brings that total to 24%. When Step 4 is included, the total variance is 38%. This represented the biggest increase (14%) in the total variance. In reference to the combined group, it was found that the commitment to the educational goals (14%) represented the greatest increase.

Chapter V

Summary, Conclusions and Recommendations

Summary

It was the purpose of this study to investigate and modify an instrument through which the prediction of high-risk freshmen students who are most likely to withdraw from the emerging state university can be made. A useful outcome of the study will be to provide Student Services at the University with student data that will be relevant to the effective reduction of student withdrawals (see Appendix E). Specifically, the investigation sought to find the effect of the students' socioeconomic status; commitment to the university; integration or "fit" into the university; commitment to the institution and its educational goals; and how each affects the withdrawal rate at the university.

The statistical treatment of the data collected within this investigation required several techniques in determining its significance (ANOVA). An analysis of variance was employed to ascertain the differences existing between the independent and dependent variables established within the investigation. A multivariate regression analysis was used to designate the exact location of the

differences revealed by ANOVA. In addition, a correlation was computed to determine the interrelationship between withdrawal and the items comprising the Astin Prediction Scale.

An analysis of these computations revealed differences existing between males and females. The Multiple regression revealed a difference in each of the four steps of each group when compared to the other groups.

Step 1 - Socioeconomic Status

In comparing the total of variance for Step 1, socio-economic status, the male percentage was greater (13%) than the (8%) for females. However, when multiple regression was applied to the entire group, Step 1 accounted for only 6% of the total variance.

Step 2 - Commitment to the University

Step 2 in the regression had the strongest single effect on the total variance for female students. However, Step 2 had the lowest increase for males. There was a significant increase of the total variance for females found in this variable. In comparing females to males, females increased 37% and males only 7%. The difference had to be attributed to measures, found in variable 2, that were more applicable to females.

Step 3 - Integration or "Fit"

There was no major difference in Step 3 (integration or "fit"). However, there was a significant jump for the males whose percentage went from 20% to 41%, which represents a 21% increase. When comparing males to females, a change of 16% was found for females. Although there is a 5% difference between the two groups, it is suggested that there is a stronger impact on the institution because there are fewer males than females involved in the Freshman class.

Step 4 - Commitment to Educational Goals

The percentages in Step 4 for males and females are nearly the same. There was an increase of 12% for women and 11% for men. Since the percentage was low, assumptions are made that the differences that may exist will not impact the overall propensity to withdraw.

Description of Findings

For the purpose of this study, only 334 of the 524 students in the Freshman class were studied. Overall, there were 20 (.06%) who withdrew from the Freshman class.

In comparing freshmen students based on grade point averages, it is noted that the majority of the students come from the B (47.5%) or C (48.5%) grade level when leaving high school. Those students maintaining B or C grades have an actual withdrawal rate which was slightly

higher than the expected rate but not in significant proportion.

Regardless of the level of parental financial involvement, female students were more affected by parental assistance than male students. In both cases female and male actual withdrawal was lower than expected.

A higher percentage of female students had jobs than did male students. In every example of employment, females out numbered male students except in the case of department credit or college credit. The single leading area of employment for females (27.1%) and males (16.2%) was college work study.

From the 334 students who chose to identify their place of residence, 247 lived in the dormitory (56.3% females and 43.7% males). Only 59 lived with their parents (33.9% males and 66.1% females). There were more women with other arrangements. A total of 20 or 71.4% constituted the difference between males and females.

There were more female students who lived on the farm than males, 23.3% male to 76.7% female; more females than males from a small town, 39.4% male to 60.6% female; and from moderate size city or town, 41.6% male to 58.4% female. The size of the hometown has some significance.

However, it affects female students more readily than male students.

Conclusions

The results of this investigation tend to warrant the rejection of the following hypothesis in drawing conclusions:

1. The null hypothesis that no statistically significant differences exist between scores on the Astin Prediction Scale completed by male and female freshmen students who withdrew from the university and those who did not, was rejected.

General Conclusions

The findings of this investigation warrant the following general conclusions:

1. That the freshman year is very crucial in the persistence of students at the university, as demonstrated by the highest percentage of withdrawals coming from the freshman class.
2. That entering freshmen with grades higher than C had a better than 50% chance for retention; other research supports this position.
3. That dissatisfaction with the program or lack of money contributes significantly to reasons for student withdrawal.

4. That the financial stability of parents of students who attended the university is important in the persistence of all students.
5. That cooperative efforts from the local, state, federal, and institution's financial communities is a must in keeping the availability of work opportunities for students who desire and have the need to work.
6. That commitment to the educational goals of the university was the major concern of enrollees.
7. Finally, that being able to "fit" both academically and socially was very important to incoming enrollees.

Recommendations

General important aspects not considered within the limits of the present investigation were identified that may be pertinent and provide greater direction for future investigations.

1. This study supports the fact that socioeconomic conditions-joined with the students' commitment, "fit" or integration, and allegiance to the educational goals of the institution-impacts the dependent variable withdrawal. Other researchers also indicate that such factors make a difference

(Wiley, 82; Hill, 83; McGhee; Lotta, 84; Suen, 83). However, since the implementation of the New Incentive Scholarship Program (Fall 1987), the student population "mix" is constantly changing noticeably. Comparative studies to determine differences which have occurred should be continued.

2. Based on reasons offered for withdrawal, it is recommended that a more indepth advisement program be implemented, in the very near future. Research indicates that all advisement is essential to an institution's growth (Barr 83, Terkla 83, Glennon & Baxley 85). The advisement program currently being used at Western New Mexico University is suggested as a possible plan. An explanation is provided in Terkla (1983) Page 29.
3. It is recommended that more male students be recruited, because based on the present findings, fewer males withdraw (Peng and Fetters, 1978).
4. A recommended study using Freshmen from the honors program is suggested to is recommended to see if the present program impacts reduced withdrawal rates or factors other than those suggested by the surveyed freshman class.

5. If institutions are able to predict potential dropout or withdrawals, early advisement can be made. Therefore, adoption of the Astin Prediction Scale or the program that is utilized at Delaware State College (Project FAR) is being recommended (Roberts 1977).
6. The university withdrawal process needs to be revised. There is a need for a more precise accounting of reasons offered for withdrawal. At the present time, there is no real way to determine if the reason for withdrawal is accurate. The possibility of follow-up could help in the process. If the real reason can be identified, the counseling process could be improved and further assist in reducing the attrition rate.
7. Future research in this regard should be conducted using a complete student population or a random selected sample.
8. All incoming freshmen should be required to complete the special treatment and the orientation process prior to the completion of the questionnaire.
9. All cases in which students show a probability of .5 or more of dropping out, programs should be developed to meet their needs of students.

BIBLIOGRAPHY

BIBLIOGRAPHY

Books

Astin, Alexander, "Preventing Students From Dropping Out," (San Francisco: Josey Bass, Inc.), 1977.

Astin, Alexander, "Dropouts and Persisters: A National Profile" (Los Angeles: Laboratory for Research On Higher Education, University of California), 1975.

Periodicals & Journals

Abatso, Yvonne, "Coping Strategies: Retaining Black Students in College," Research in Education, 1984.

Ballou, Leonard and Lee, Nancy. "Student Withdrawal at ECSU: Who and Why," Elizabeth City State University: Office of Institutional Research, August 1979.

Barr, Robert Benson, "Student Retention and Advising: An International Comparison and Case Study," Dissertation Abstracts International, Volume 44, No. 2, August, 1983.

Braddock, JoMills Henry II, "Desegregation and Black Student Attrition," Urban Education, Volume 15, No. 4, January, 1981.

Daily, Lucious, "Attrition and Retention Problems: A Descriptive Analysis of the Attrition and Retention Problems Identified by Administrators at Six Historically Black Colleges," Dissertation Abstracts International, Volume 44/12-A, 1983, p. 3552.

Donovan, Rebecca Ann. "Persistence in Higher Education Among Low Income Black Youth: A Path Analysis," Dissertation Abstracts International, Volume 44/08-A, 1983, p. 2580.

Eddins, Diane. "A Carousal Model of Attrition of Specially Admitted Black Students in Higher Education." Research in Education, May 1983.

Glennen, Robert E. and Baxley, Dan M. "Reduction of Attrition Through Intrusive Advising," NASPA Journal, Volume 22, No. 3, Winter, 1985.

Gill, Wanda E. "The Need for a Special Services Project at Bowie State College," Research in Education, December 1985.

Gosman, Erica. "Predicting Student Progress: The Influence of Race and Other Student and Institutional Characteristics on College Student Performance," Research in Education, January, 1983.

Higgerson, Mary Lou. "Understanding Why Students Voluntarily Withdraw from College," NASPA Journal, Volume 22, No. 3, Winter, 1985.

Hill, Susan and others, "Characteristics of Black Postsecondary Students," Research in Education, 1983.

Ironside, Ellen M. "Voluntary Withdrawal: Why Don't They Return," Research in Education, May, 1980.

Kolstad, Andrew. "What College Dropout and Dropout Rates Tell Us," American Education Journal, 1981, 17:31-3.

Latta, William. "A Study of Institutional Attrition Among First Time College Freshmen: 1981," Dissertation Abstracts International, 1984.

Lyons, Charles A. "Towards Equity for Blacks in Higher Education," Research in Education, November, 1977.

McMaster, Anne. "Non-Returning Students: Full-Time and Part-Time, Spring 1981-Spring 1982 and Fall 1982-Fall 1983, Technical Report 85-03," Research in Education, February, 1986.

Mingo, Gwenuel Wilfred. "A Longitudinal Study of the Relationship Between a Special Services Program and Black Students' Academic Performances and Economic Enhancement," Dissertation Abstracts International, Volume 45/07-A, 1984, p. 2016.

Pedrini, Bonnie C. and Pedrini, D. T. "The Usefulness of ACT Scores in Predicting Achievement and Attrition Among Disadvantaged and Regular Freshmen: A Survey and Study," Research in Education, January, 1977.

Peng, Samuel S. and Fetters, William B., "College Student Withdrawal: A Motivational Problem," Research in Education, 1978.

Roberts, Byron and Ashe Arthur. "Project FAR: An Action Response to College Attrition." Aetna Life Insurance and Delaware State College, 1977.

Romana, Joan L. and Garfield, Joan B. "A Curricular Experiment for Unprepared Minority Students: An Evaluation of the General College Pilot Educational Package, (PEP)." Research in Education, April, 1981.

Sanford, Timothy. "Retention and Persistence Data," Research in Education, May, 1980.

Suen, Hoi K. "Alienation and Attrition of Black College Students on a Predominately White Campus," Journal of College Student Personnel, 1985.

Smith, Donald H. "Admission and Retention of Black Students at Seven Predominantly White Universities," Research in Education, September, 1981.

Steward, Betty Jean. "Academic and Non-Academic Factors Related to the Attrition Role of Specially Admitted Black University Freshmen Students," Dissertation Abstracts International, Volume 43/06-A, 1982, p. 1869.

Terkla, Dawn Geronimo. "Financial Aid and Undergraduate Persistence," Dissertation Abstracts International, Volume 44 and No. 66, December, 1983.

Uhl, Norman. "Identifying Sources of Conflict in the Desegregation of State Systems of Higher Education: Focus on the Competition for Students," Research in Education, October, 1983.

Wade, Joseph. "Effects of Improved Self-Concept on Retention of Black Students at the University of Oregon," Dissertation Abstracts International, Volume 43/06-A, 1982, p. 1904.

White, Katherine Harris. "Black College Since 1954, Brown vs. Topeka Board of Education." Dissertation Abstracts International, Volume 44, No. 8, February 1984, p. 2384.

Wiley, Jimmy Lee. "A Study of Attrition Among Black Freshmen at Eight Mississippi Public Institutions of Higher Education," Dissertation Abstracts International, Volume 44, No. 3, September, 1983.

Bibliography

Beck, Lisa and Maia, Joseph. "Potential High School Dropouts," Education Digest, 1981, pp. 16-19.

Brodinsky, Ben. "Something Happened: Education in the Seventies," Phi Delta Kappa, December, 1979.

Crossland, Clifford Thomas. "Why Students Leave the Public School Prior to Graduation as Perceived by the School Dropout in a Selected Urban Area in the Midwest," Dissertation Abstracts International, Volume 44, No. 7, January, 1984, p. 1984A.

Eason, Patricia Phillip, "A Study of Truancy and Dropouts, Their Possible Relationship and a Plan to Reduce Both Conditions," Dissertation Abstracts International, Volume 44, No. 4, October, 1983.

Gasman, Erica. "Predicting Student Progression: The Influence of Race and Other Student and Institutional Characteristics on College Student Performance," Research in Education, January, 1983.

Lajorie, Susan P. and Shore, Bruce M. "Three Myths? The Over-Representation of the Gifted Among Dropouts, Delinquents, and Suicides," Gifted Children's Quarterly, Volume 25, No. 3, Summer, 1981, pp. 138-141.

McMaster, Anne. "Non-Returning Students: Full-time and Part-time, Spring 1981-Spring 1982 and Fall 1982-Fall 1983. Technical Report 85-03," Research in Education, February 1986.

Pedrini, Bonnie C. and Pedrini, D. T., "Predicting Attrition Persistence of College Freshmen: Disadvantaged and Regular," Research in Education, April, 1977.

Rugg, Edwin A. "A Comparison of Minority and Non-minority Student Attrition and it's uses for Planning," Preceeding for N. C. Educational Research - Charlotte, N.C., October 1981.

Rogers, Brenda H. "The use of Non-cognitive Variables in the prediction of Black Freshmen's College Performance," Southern Association for Institutional Research, October 1984.

Sanford, Timothy. "Factors Influencing the 'Withdrawal' of Academically Ineligible Black Students," Research in Education, May, 1980.

Smith, Jeff and Henderson, Cathy. "Enrollment and Retention in and Desegregation of Post Secondary Educational Institutions: An Abridged Bibliography," Research in Education, 1982.

Zanoni, Candido P. "The 1979-80 General College Retention Program, Final Report: Pilot Education Program," Research in Education, April, 1981.

APPENDIX A

June 12, 1986

Dr. Jimmy R. Jenkins, Chancellor
Elizabeth City State University
Elizabeth City, North Carolina

Dear Dr. Jenkins:

Recently, I spoke with you relative to my plans for a proposed study to be used to complete the requirements for my Doctoral Dissertation. I have selected as my area of study, "Dominant Institutional Factors Influencing the Propensity of Freshmen to Withdraw From An Emerging State University."

The primary purpose of this study is to predict the student withdrawal phenomena at the University and to see if the level of career education in high school and ability to set long range goals are predictors of the propensity of a student to withdraw. It is expected that a profile chart on the average freshmen and sophomore dropout at the University can be established. Further analysis of the ten county area high school career development programs will be made to identify what components are/are not being addressed in meeting their students' needs. In addition, the attempt will be made to ascertain some relevant data about various campus programs designed to foster decision-making and social maturity among its students.

I am hoping to start my residency at Virginia Tech during the summer of '86. Your endorsement of my proposed proposal will be greatly appreciated.

Respectfully yours,

Claudie J. Mackey

CJM

July 8, 1986

Mr. Claudie J. Mackey
Division of Education and Psychology
Elizabeth City State University
Box 934
Elizabeth City, North Carolina 27909

Dear Mr. Mackey:

I am granting and support your request to have the student body participate in a study on this campus during the Fall Semester of 1986, on the topic, "Dominant Institutional Factors Influencing the Propensity of Freshmen to Withdraw From An Emerging State University." I would hope that you would conduct this important study for all concerned under the highest degree of professionalism as possible.

Please contact Dr. Leon White, Vice Chancellor of Student Affairs and Mr. Leonard Ballou, University Archivist, for whatever assistance you need to conduct this important study. We will be glad to cooperate with you in every way possible.

Best wishes in this endeavor and please do not hesitate if you should need further assistance from my office.

Sincerely yours,

Jimmy H. Jenkins
Chancellor

cc: Dr. Leon White
Mr. Leonard Ballou
Mr. Joe White
Mr. Umfort Locus

June 12, 1986

Dr. Leon White, Vice Chancellor of
Student Affairs
Elizabeth City State University
Elizabeth City, NC 27909

Dear Dr. White:

As per our conversation during the Fall of 1985, this letter seeks your confirmation of assistance and support in the proposed research I plan to do for my dissertation. The research will cover, "Dominant Institutional Factors Influencing The Propensity of Students To Withdraw From Elizabeth City State University."

Specifically, your office is the caretaker of pertinent information relative to student withdrawal, financial aid, testing, housing and student life in general. Your office will be of great assistance in the gathering of data relative to ECSU's student withdrawal. For that reason, I seek your assistance.

I hope to meet with you in the near future to discuss more in detail my plan of action.

Respectfully yours,

Claudie J. Mackey

July 3, 1986

Mr. Claudie J. Mackey
Education and Psychology Department
Elizabeth City State University
Elizabeth City, North Carolina 27909

Dear Mr. Mackey:

This letter is written to strongly endorse your forthcoming research project on student attrition at Elizabeth City State University. The Division of Students Affairs is ready to help you.

As you may know, student attrition is a major concern here at the University. In the past, we have not had access to as reliable a measuring instrument as the one you propose to use in your study. The data generated by your research can greatly assist us in our efforts to reduce both the number and percentage of our students who either stop out or drop out for various reasons.

We eagerly await the commencement of your work.

Sincerely yours,

Leon S. White, Ph.D.
Vice Chancellor for Student Affairs

June 5, 1986

Ms. Sheryl L. Greenway
433 California Street
San Francisco, California 94104

Dear Ms. Greenway:

This letter is a follow-up to the conversation we had today via telephone.

As stated, I hope to have my proposal for a study to be conducted on the campus of Elizabeth City State University accepted as a perspective for my dissertation. Dr. Astin's questionnaire includes all areas I hope to cover. For that reason, I am again seeking written permission from you and your company (Jossey-Bass, Inc.) to use the questionnaire.

The questionnaire will not be used to generate income by or for me if given permission to use the questionnaire.

Respectfully yours,

Claudie J. Mackey

CJM/ag

June 12, 1986

Mr. Claudie J. Mackey
Elizabeth City State University
Elizabeth City, North Carolina 27909

Dear Mr. Mackey:

Permission is hereby granted for you to use Dr. Astin's questionnaire in the preparation of your dissertation.

Sincerely,

Sheryl L. Greenway
Permission Editor

February 20, 1986

Mr. Leonard Ballou, Director
Office of Archives and Research
Elizabeth City State University
Elizabeth City, North Carolina

Dear Mr. Ballou:

The time is approaching when I will start the formal research for my post graduate degree. This letter is being written soliciting your assistance in the gathering of needed data.

Tentatively, I have selected "Dominant Institutional Factors Influencing The Propensity of Students To Withdraw From Elizabeth City State University," as the area to be researched. There are a number of variables that could possibly influence the attrition rate. It is my hopes that your office will be helpful in the sifting through the maze of possibilities and selecting the most appropriate variables.

I will be looking forward to meeting with you very soon.

Respectfully yours.

Claudie J. Mackey

February 25, 1986

Mr. Claudie J. Mackey
Assistant Professor of Education
Box 934
Elizabeth City State University
Elizabeth City, North Carolina 27909

Dear Mr. Mackey:

Thank you for your letter of February 20, 1986 indicating your beginning Doctoral Research. Please accept very best wishes for successful conclusion and know that our office will give any assistance of which we are capable and in keeping with externally imposed reporting requirements and accompanying workload.

Hopefully your proposed topic will not only reach successful conclusion but in addition results thereof will be utilized as part of upward spiral of institutional effectiveness.

Cordially yours,

Leonard R. Ballou
Director of Institutional Research

LRB:dmb

APPENDIX B

WORKSHEETS FOR PREDICTING CHANCES OF DROPPING OUT

This section will enable policy-makers, administrators, and students to compute measures of dropout-proneness for any individual student or any group of students. Individual students can simply answer the questions in the attached tables and compute their own probabilities of dropping out. The probabilities are based on the predictions in which stopouts and dropouts were combined. Average measures of dropout-proneness for any group of students can also be calculated directly from aggregate student data, assuming appropriate data are available. In using such data, the mean values can be treated in exactly the same way as an individual student's response to a particular question. The procedures for using the tables are as follows:

Step 1: Answer each question and record the score associated with that answer in the space provided. If the answer is not available for a particular question, substitute the mean value from the appropriate student group

(white men, white women, blacks in black colleges, or blacks in white colleges). In certain circumstances it may make more sense to estimate the response rather than to use the mean. For example, for a student at a highly selection college who does not report his or her average high school grades, it may be more appropriate to substitute the mean grades for students at that college (if available) or some estimate of that mean, rather than the value provided in the attached tables.

Step 2. Multiply the score for each item by the corresponding regression weight for that item and record the product in the space provided. Use the appropriate weight corresponding to the student's race and sex (white women, white men, blacks in black colleges, and blacks in white colleges).

Step 3. Sum the products and record the total in the space provided.

Step 4. Add the appropriate constant #1 to the sum and record the result in the space provided. Note the sign of the constant.

Step 5. Multiply the total by 100 and record the result. This figure equals the chances in 100 of dropping out.

Persons using these Worksheets should keep in mind several additional considerations;

First, all students who aspire to less than a bachelor's degree (for example, the associate degree) or to no degree should be ommitted.

Second, any measure of actual dropout rates should carefully follow the definitions in Chapter One.

Third, no items should be omitted, and every category of categorical items (religion, race, degree plans, home town, and place of residence) should receive a score (1 or 2). If the information needed to fill in the variable score is not available, the appropriate mean should be used, except in the circumstances noted in Step 1. One other possible exception to the use of these means concerns the student's religious preference and the religion of the parents. For example, if only the student's religious preference (Religion Now) is know, it is more

appropriate to assume that the parents' religion (Religion Reared) is the same than to enter the means. Similarly, if information is available only on the parents' religion, it is more appropriate to assume that the student's religion is the same. These assumptions are necessary because the weights for the regression equations were derived under circumstances where both parents' and students' religious preferences were known.

Somewhat more accurate estimates of dropout probabilities can be obtained by adding to the student input information data about the student's financial aid, work status, and residence during the freshman year. As shown in Chapters Three, Four, and Five, each of these classes of information adds significantly to the prediction of dropout chances. The additional steps for taking into account such data are:

Step 6. Enter information on each of the finance, work, and residence variables in the space provided.

Step 7. Multiply the variable score from Step 6 by the appropriate regression weight and record the product in the space provided.

Step 8. Sum the products obtained in Step 7 and enter the total in the space provided.

Step 9. Add the appropriate constant #2 to the total obtained in Step 8 and enter the result in the space provided.

Step 10. This is a two-stage step. First, add 1.0 to the value obtained in step 4. Next, multiply the result by the appropriate constant #3, and enter the result in the space provided.

Step 11. Sum the results obtained in the previous two steps (9 and 10) and enter the result.

Step 12. Multiply the value from Step 11 by 100 and enter the result in the space provided. This represents the chance (in 100) of dropping out based on student-input, financial aid, work, and residence variables.

---

* The following questions were selected from the questionnaire to be used in the multiple regression: (54, 45, 60, 17, 42, 29, 59, 2, 31, 49, 1, 44, 63, 41, 61, 64, 21, 38, 62, 23, 57, 22 58, 56)

Student I.D. Number _____ Date Taken _____ Freshman or Transfer _____

WORKSHEET—*Part One*

Predicting Chances of Dropping Out Using Student Variables

Variable Name and Scoring	STEP 1 Enter Variable Score	REGRESSION WEIGHTS (MEAN VALUES) White Men	White Women	Blacks in Black Colleges	Blacks in White Colleges	STEP 2 Enter Product of Variable Score and Appropriate Weight
1. Average high school grade (A+ or A = 8, A− = 7, B+ = 6, B = 5, B− = 4, C+ = 3, C = 2, D = 1)	1. _____	−.04725 (4.2839)	−.03737 (5.2047)	−.04122 (4.1426)	−.02719 (3.9739)	1. _____ *
2. Rank in high school class (top 1 percent = 6, top 10 percent = 5, top quarter = 4, second quarter = 3, third quarter = 2, fourth quarter = 1)	2. _____	−.02978 (3.4567)	−.01205 (3.9201)	−.02080 (3.7548)	−.06213 (3.3647)	2. _____ *
3. College admissions test scores (combined score for SAT verbal plus mathematical)	3. _____	−.00014 (984)	−.00029 (1002)	−.00006 (737)	−.00007 (920)	3. _____
4. Student's academic rating of high school (very high = 5, fairly high = 4, about average = 3, probably below average = 2, definitely below average = 1)	4. _____	−.00864 (3.9474)	−.01474 (4.0185)	−.02937 (3.6809)	−.02170 (3.8067)	4. _____
Family Background						
5. Religion reared—Protestant (yes = 2, no = 1)	5. _____	−.05389 (1.5130)	−.01620 (1.5418)	−.12747 (1.5555)	−.14035 (1.5434)	5. _____
6. Religion reared—Catholic (yes = 2, no = 1)	6. _____	−.12124 (1.3337)	.00000 (1.3222)	−.36613 (1.0431)	−.29750 (1.1533)	6. _____

7. Religion reared — Jewish (yes = 2, no = 1)	7. ____	−.10309 (1.0590)	−.05026 (1.0627)	.00000 (1.0000)	−.44208 (1.0044)	7. ____
8. Religion reared—other (yes = 2, no = 1)	8. ____	−.05328 (1.0606)	−.09660 (1.0443)	−.14687 (1.3500)	−.17347 (1.2479)	8. ____
9. Religion reared—none (yes = 2, no = 1)	9. ____	−.13312 (1.0251)	.02576 (1.0222)	−.31821 (1.0154)	−.02796 (1.0114)	9. ____
10. Religion now—Protestant (yes = 2, no = 1)	10. ____	−.03078 (1.4435)	−.02740 (1.4817)	−.02371 (1.4928)	−.11759 (1.4792)	10. ____
11. Religion now—Catholic (yes = 2, no = 1)	11. ____	.00000 (1.3031)	−.07643 (1.3033)	13241 (1.0666)	−.06529 (1.1505)	11. ____
12. Religion now—Jewish (yes = 2, no = 1)	12. ____	−.11986 (1.0511)	−.08210 (1.0549)	−.43754 (1.0010)	−.20840 (1.0019)	12. ____
13. Religion now—other (yes = 2, no = 1)	13. ____	.05581 (1.0696)	.07450 (1.0567)	−.00353 (1.3191)	−.08518 (1.2202)	13. ____
14. Religion now—none (yes = 2, no = 1)	14. ____	.07464 (1.1082)	.08703 (1.0762)	.04624 (1.0388)	−.03243 (1.0705)	14. ____
15. Father's education (grammar school or less = 1, some high school = 2, high school graduate = 3, some college = 4, college graduate = 5, postgraduate degree = 6)	15. ____	−.01691 (3.4280)	−.01066 (3.6487)	−.02431 (2.1645)	.00326 (2.7228)	15. ____
16. Mother's education (grammar school or less = 1, some high school = 2, high school graduate = 3, some college = 4, college graduate = 5, postgraduate degree = 6)	16. ____	−.01005 (3.2933)	−.01580 (3.4829)	.00237 (2.7584)	−.03910 (2.9643)	16. ____
17. Student's concern about finances (no concern = 1, some concern = 2, major concern = 3)	17. ____	.00405 (1.7418)	.03917 (1.7353)	.05743 (2.0395)	−.01690 (1.9660)	17. ____

WORKSHEET--*Part One (Continued)*

Predicting Chances of Dropping Out Using Student Variables

Variable Name and Scoring	STEP 1 Enter Variable Score	REGRESSION WEIGHTS (MEAN VALUES) White Men	White Women	Blacks in Black Colleges	Blacks in White Colleges	STEP 2 Enter Product of Variable Score and Appropriate Weight
18. Race—Oriental (yes = 2, no = 1)	18. ———	−.07395 (1.0112)	−.09539 (1.0101)	−.08553 (1.0009)	−.10127 (1.0322)	18. ———
19. Race—other (yes = 2, no = 1)	19. ———	.03314 (1.0114)	.09119 (1.0075)	−.04165 (1.0016)	−.03786 (1.0404)	19. ———
20. Lived on a farm most of time growing up (yes = 2, no = 1)	20. ———	.01963 (1.0881)	−.04256 (1.0892)	.01104 (1.1246)	−.04669 (1.0393)	20. ———
21. Lived in a small town most of time growing up (yes = 2, no = 1)	21. ———	.05581 (1.1863)	−.01255 (1.1963)	.05125 (1.2373)	.06180 (1.1518)	21. ——— *
22. Lived in a moderate size city or town most of time growing up (yes = 2, no = 1)	22. ———	.01292 (1.3202)	−.01497 (1.3291)	−.00306 (1.3522)	.00517 (1.2853)	22. ——— *
Educational Aspirations						
23. Highest degree planned—bachelor's (yes = 2, no = 1)	23. ———	.11867 (1.3693)	.03666 (1.5135)	.05649 (1.3324)	.14308 (1.3892)	23. ——— *
24. Highest degree planned—master's (yes = 2, no = 1)	24. ———	.04466 (1.3422)	−.02476 (1.3662)	−.01410 (1.4016)	.01272 (1.3288)	24. ———
25. Highest degree planned—Ph.D. or Ed.D. (yes = 2, no = 1)	25. ———	.00134 (1.1653)	.00525 (1.0640)	.01027 (1.1922)	.00000 (1.1703)	25. ———

26. Highest degree planned—professional (yes = 2, no = 1)	26. _____	.00000 (1.0943)	.00000 (1.0234)	.00000 (1.0498)	.08016 (1.0525)	26. _____
27. Highest degree planned—other (yes = 2, no = 1)	27. _____	.23581 (1.0289)	.25788 (1.0329)	.13189 (1.0240)	.32027 (1.0593)	27. _____
28. Expects to be an engineer (yes = 2, no = 1)	28. _____	.06081 (1.1603)	.20798 (1.0029)	−.07980 (1.0259)	.19658 (1.0607)	28. _____
Study Habits During Past Year						
29. Turned in assigned work on time (always = 4, usually = 3, sometimes = 2, rarely or never = 1)	29. _____	−.03029 (3.4194)	−.02522 (3.6149)	−.06281 (3.4740)	−.03638 (3.4097)	29. _____ *
30. Did homework at the same time every day (always = 4, usually = 3, sometimes = 2, rarely or never = 1)	30. _____	−.02189 (2.2512)	−.00759 (2.4311)	−.00282 (2.0193)	−.00592 (2.0881)	30. _____
31. Made careless mistakes on a test (always = 4, usually = 3, sometimes = 2, rarely or never = 1)	31. _____	−.01530 (1.9948)	−.04688 (1.9143)	−.02100 (2.0254)	−.01366 (2.0067)	31. _____ *
32. Kept desk or study place neat (always = 4, usually = 3, sometimes = 2, rarely or never = 1)	32. _____	.01468 (2.8262)	.00943 (2.8983)	−.00892 (3.0963)	.04986 (3.0728)	32. _____.
33. Did extra-credit work (always = 4, usually = 3, sometimes = 2, rarely or never = 1)	33. _____	.01195 (1.9316)	.02843 (2.0146)	.03601 (2.1679)	.01971 (2.1280)	33. _____
34. Carefully went over diagrams or tables in textbook (always = 4, usually = 3, sometimes = 2, rarely or never = 1)	34. _____	.01686 (2.5305)	.00555 (2.5781)	.02875 (2.6603)	.03954 (2.6639)	34. _____
35. Was too bored to study (always = 4, usually = 3, sometimes = 2, rarely or never = 1)	35. _____	.00899 (1.8097)	.02822 (1.6429)	00246 (1.5772)	.05861 (1.6285)	35. _____

WORKSHEET—*Part One (Continued)*

Predicting Chances of Dropping Out Using Student Variables

Variable Name and Scoring	STEP 1 Enter Variable Score	REGRESSION WEIGHTS (MEAN VALUES) White Men	White Women	Blacks in Black Colleges	Blacks in White Colleges	STEP 2 Enter Product of Variable Score and Appropriate Weight
36. Had trouble concentrating on assignments (always = 4, usually = 3, sometimes = 2, rarely or never = 1)	36. ———	.02058 (1.9507)	—.00619 (1.8161)	.02073 (1.9156)	.06181 (1.9192)	36. ———
37. Studied with radio or record player on (always = 4, usually = 3, sometimes = 2, rarely or never = 1)	37. ———	.01351 (1.8214)	.01715 (1.7597)	.05995 (1.8294)	—.03651 (1.8133)	37. ———
38. Studied alone (always = 4, usually = 3, sometimes = 2, rarely or never = 1)	38. ———	.00024 (3.3935)	.00000 (3.4013)	—.05626 (3.1761)	.01639 (3.3277)	38. ——— *
39. Failed to complete a homework assignment on time (frequently = 3, occasionally = 2, not at all = 1)	39. ———	.03399 (1.7355)	.02664 (1.5261)	.00646 (1.6625)	—.04900 (1.6722)	39. ———
Expectations About College ("What is your best guess as to the chances that you will . . .")						
40. Drop out temporarily (no chance = 1, very little chance = 2, some chance = 3, very good chance = 4)	40. ———	.04462 (1.6260)	.00303 (1.6345)	—.00776 (1.6396)	.03699 (1.5736)	40. ———

41. Transfer before graduating (no chance = 1, very little chance = 2, some chance = 3, very good chance = 4)	41. ———	−.01596 (2.3197)	−.00540 (2.3496)	−.04557 (2.0102)	−.05061 (2.1198)	41. ——— *
42. Get married while in college (no chance = 1, very little chance = 2, some chance = 3, very good chance = 4)	42. ———	.02052 (2.0252)	.01291 (2.1971)	.00264 (1.9363)	.01264 (1.3741)	42. ——— *
43. Obtain overall GPA of A— or better (no chance = 1, very little chance = 2, some chance = 3, very good chance = 4)	43. ———	.03869 (2.2579)	.04190 (2.1956)	.00279 (2.3407)	.02546 (2.3717)	43. ———
44. Graduate with honors (no chance = 1, very little chance = 2, some chance = 3, very good chance = 4)	44. ———	.02306 (2.4842)	−.00069 (2.3768)	.01788 (2.6146)	.02490 (2.5527)	44. ——— *
45. Be elected to an academic honor society (no chance = 1, very little chance = 2, some chance = 3, very good chance = 4)	45. ———	−.02961 (2.1236)	−.02492 (2.2183)	.02462 (2.3158)	−.05742 (2.1204)	45. ——— *
Other Student Characteristics						
46. Sex (male = 1, female = 2)	46. ———	.00000 (1.0000)	.00000 (2.0000)	−.01973 (1.5739)	.00237 (1.4985)	46. ———
47. Age at college entry (16 or younger = 1, 17 = 2, 18 = 3, 19 = 4, 20 = 5, 21 = 6, older than 21 = 7)	47. ———	.00357 (3.3403)	.03867 (3.1341)	−.01379 (3.3206)	.03457 (3.5868)	47. ———
48. Smoked cigarettes in high school (frequently = 3, occasionally = 2, not at all = 1)	48. ———	.02550 (1.5937)	.03566 (1.4551)	.11826 (1.4484)	.10546 (1.4279)	48. ———

WORKSHEET—*Part One (Continued)*

PREDICTING CHANCES OF DROPPING OUT USING STUDENT VARIABLES

Variable Name and Scoring	STEP 1 Enter Variable Score	REGRESSION WEIGHTS (MEAN VALUES) White Men	White Women	Blacks in Black Colleges	Blacks in White Colleges	STEP 2 Enter Product of Variable Score and Appropriate Weight
49. Won varsity letter in high school (yes = 2, no = 1)	49. ———	−.05242 (1.4533)	−.02740 (1.1450)	.00463 (1.2403)	−.03967 (1.2952)	49. ——— *
50. Married when entering college (no = 1, yes = 2)	50. ———	−.08417 (1.0178)	.10658 (1.0198)	.02116 (1.0191)	.07893 (1.0612)	50. ———
51. Overslept and missed a class or appointment in high school (frequently = 3, occasionally = 2, not at all = 1)	51. ———	−.01238 (1.2407)	.00734 (1.1552)	.00447 (1.2116)	.03253 (1.2412)	51. ———
52. Estimate chance of marrying within year after college (no chance = 1, very little chance = 2, some chance = 3, very good chance = 4)	52. ———	−.00759 (2.5669)	−.00998 (2.7353)	−.00228 (2.3630)	.02424 (2.3292)	52. ———
CONSTANT #1:		.51853	.34803	2.03694	1.56640	

STEP 3: Sum the products obtained in Step 2 ———

STEP 4: Add the appropriate Constant #1 ———

STEP 5: Multiply by 100 ——— = chances in 100 of dropping out

Note: An approximate adjustment for errors in measurement of characteristics of entering students (see Astin, 1975) can be made by multiplying the final result from Step 5 by 1.11 and subtracting a constant from the result. The constants for the four groups are: white men, 3.0; white women, 3.4; blacks in black colleges, 2.9; blacks in white colleges, 5.6.

WORKSHEET—*Part Two*

Predicting Chances of Dropping Out Using Additional Variables on Financial Aid, Work Status, and Place of Residence

Variable Name and Scoring	STEP 6 Enter Variable Score	REGRESSION WEIGHTS				STEP 7 Enter Product of Variable Score and Appropriate Weight
		White Men	White Women	Blacks in Black Colleges	Blacks in White Colleges	
Sources of Financial Aid During Freshman Year						
53. Personal savings and/or employment (major support = 3, minor support = 2, not a source = 1)	53. ____	.00189 (2.102)	.00443 (1.804)	−.00225 (1.510)	−.02215 (1.761)	53. ____
54. Parental or other family aid (major support = 3, minor support = 2, not a source = 1)	54. ____	−.01243 (2.194)	−.02534 (2.485)	−.00548 (1.920)	−.03446 (1.905)	54. ____ *
55. Repayable loan (major support = 3, minor support = 2, not a source = 1)	55. ____	.03052 (1.340)	−.00553 (1.399)	.00474 (1.792)	−.04614 (1.493)	55. ____
56. Scholarship, grant, or other gift (major support = 3, minor support = 2, not a source = 1)	56. ____	−.02177 (1.470)	−.01130 (1.533)	−.01819 (1.786)	−.03308 (1.809)	56. ____ *
Work Status During Freshman Year						
57. Federally sponsored work-study program (yes = 2, no = 1)	57. ____	−.02007 (1.024)	−.04994 (1.052)	−.15420 (1.111)	−.09535 (1.119)	57. ____ *
58. Other on-campus work (yes = 2, no = 1)	58. ____	−.03132 (1.063)	−.03949 (1.086)	−.00036 (1.044)	−.12293 (1.059)	58. ____ *
59. Off-campus work (yes = 2, no = 1)	59. ____	−.07779 (1.219)	−.04612 (1.151)	.04234 (1.075)	−.07201 (1.138)	59. ____ *
60. Employment for college credit as part of departmental program (yes = 2, no = 1)	60 ____	−.04905 (1.021)	.03811 (1.004)	.39389 (1.002)	−.11783 (1.007)	60. ____ *

WORKSHEET—*Part Two (Continued)*

Predicting Chances of Dropping Out Using Additional Variables on Financial Aid, Work Status, and Place of Residence

Variable Name and Scoring	STEP 6 Enter Variable Score	REGRESSION WEIGHTS White Men	White Women	Blacks in Black Colleges	Blacks in White Colleges	STEP 7 Enter Product of Variable Score and Appropriate Weight
61. Number of hours worked per week (25 or more = 6, 20–24 = 5, 15–19 = 4, 10–14 = 3, 5–9 = 2, fewer than 5 = 1)	61. ———	.01898 (3.425)	.01069 (2.930)	−.01641 (2.941)	.01772 (3.629)	61. ——— *
Place of Residence During Freshman Year						
62. College dormitory (yes = 2, no = 1)	62. ———	−.12709 (1.505)	−.12237 (1.642)	−.13246 (1.686)	−.06512 (1.428)	62. ——— *
63. With parents (yes = 2, no = 1)	63. ———	.00865 (1.382)	−.01113 (1.302)	.02303 (1.247)	.03238 (1.443)	63. ——— *
64. Other (yes = 2, no = 1)	64. ———	.00000 (1.114)	.00000 (1.067)	.00000 (1.067)	.00000 (1.129)	64. ——— *
CONSTANT #2		−.74759	−.57726	−.98557	−.17663	
CONSTANT #3		1.05478	.96388	.99844	.88590	

STEP 8: Sum the products obtained in Step 7 ———

STEP 9: Add the appropriate Constant #2 ———

STEP 10: Add 1.0 to the value from Step 4, multiply the result by appropriate Constant #3, and enter product ———

STEP 11: Sum the results from Steps 9 and 10 ———

STEP 12: Multiply by 100 ——— = chances in 100 of dropping out

APPENDIX C

TO: All Instructors of Freshmen Orientation Classes

FROM: C. J. Mackey and Dr. Leon White

DATE: September 1, 1986

RE: Institutional Study on the Propensity of Freshmen to Withdraw from College

During the next two weeks, Mr. Mackey from the Division of Education will be collecting data for an institutional study. We are asking you to cooperate in allowing him to use needed class time during your Freshmen Orientation classes to gather this data. The data collection process should take no more than 15 minutes.

Please sign the assigned date, time, and place if all meets your approval.

#of students	instructor	bldg. & room	date	time

Signed _____

TO:

FROM: C. J. Mackey

Please check your classes again to make sure we were able to get all of your students to complete this form. We have gathered data from only 300 students. It must be collected this week.

INFORMATION TO NOTE

Four questions at the right top corner on page 1

question #10 should read Catholic

question 11 should read No = 1

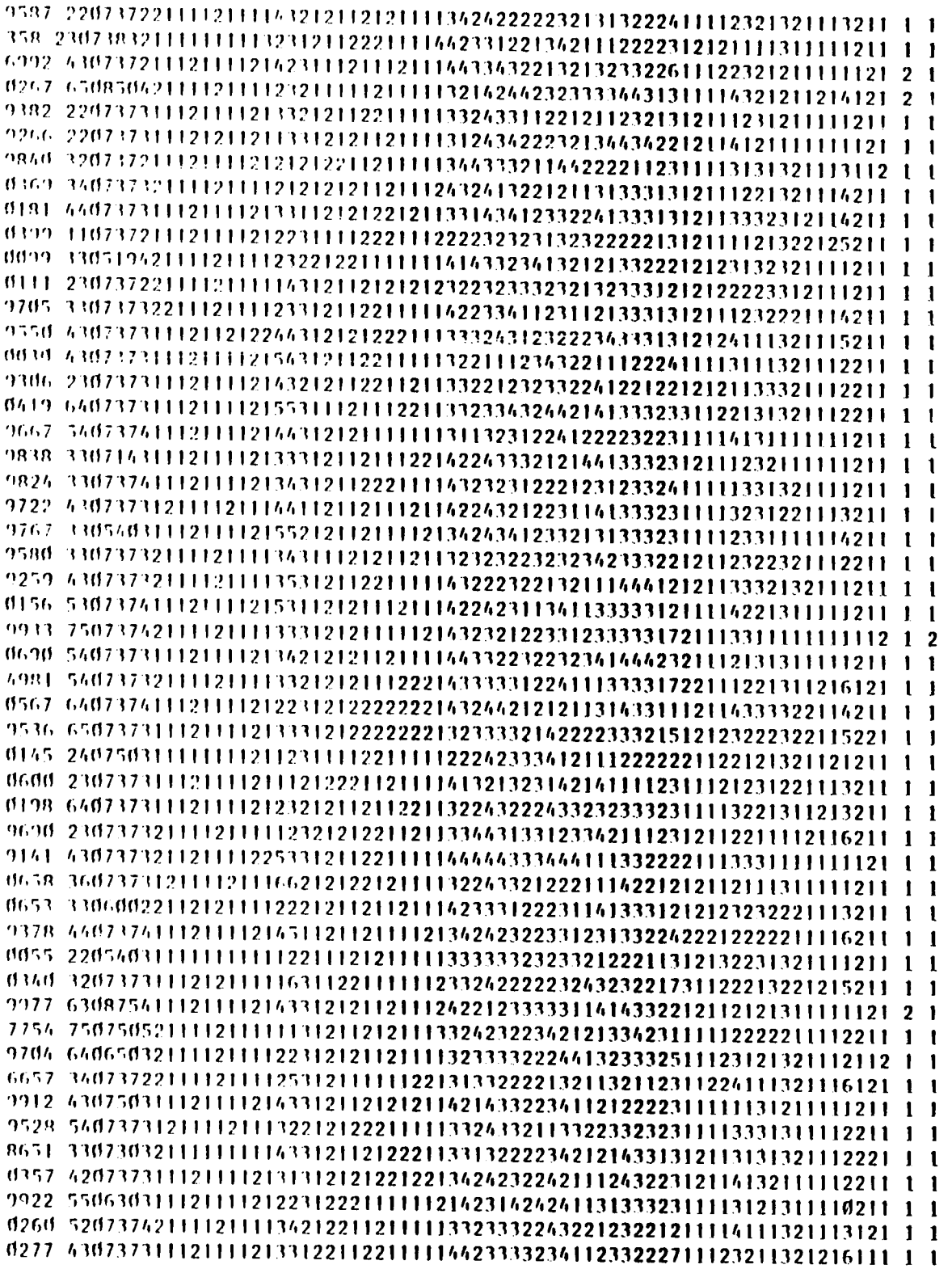
question 39, delete homework once

APPENDIX D

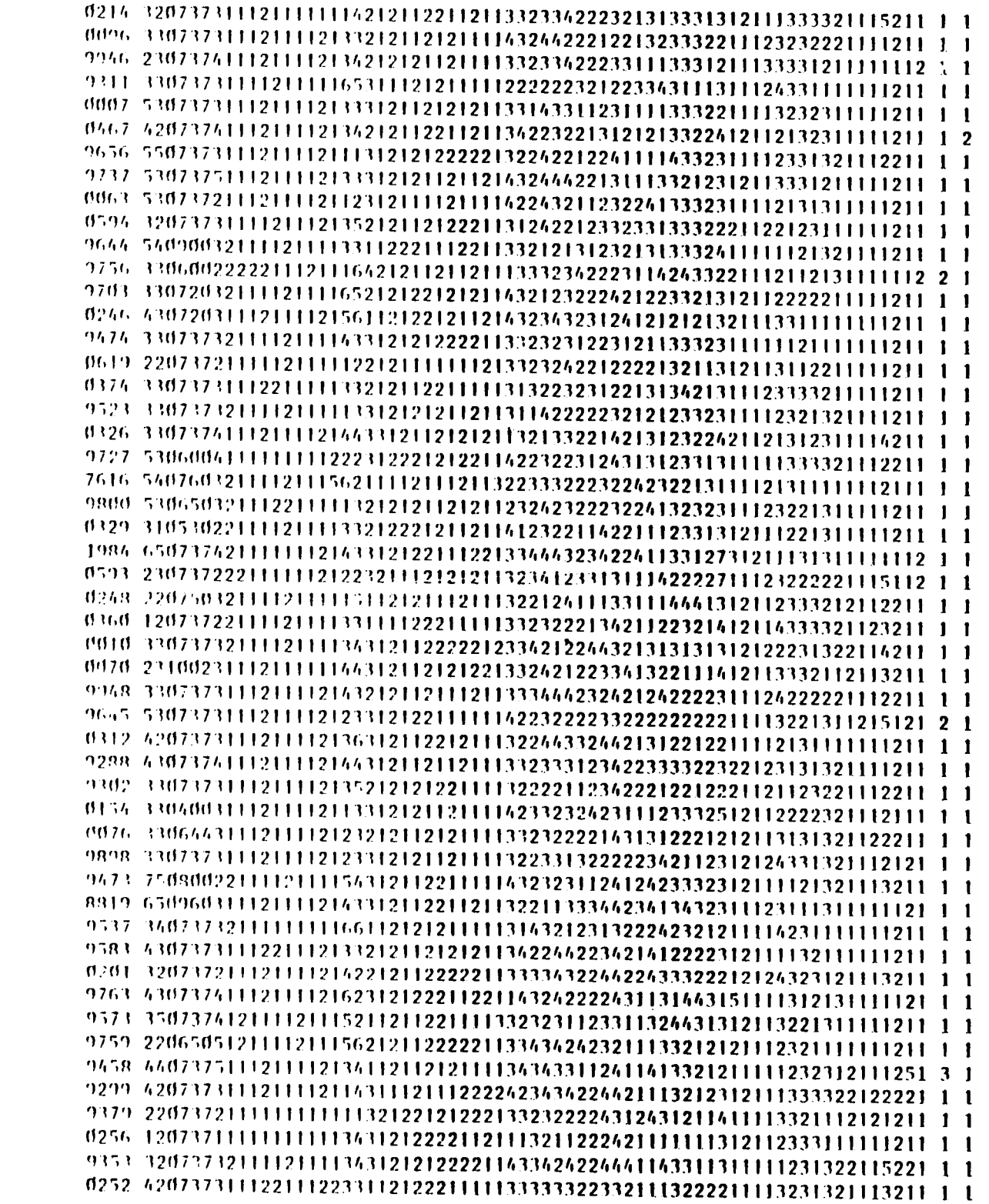
WORKSHEET I

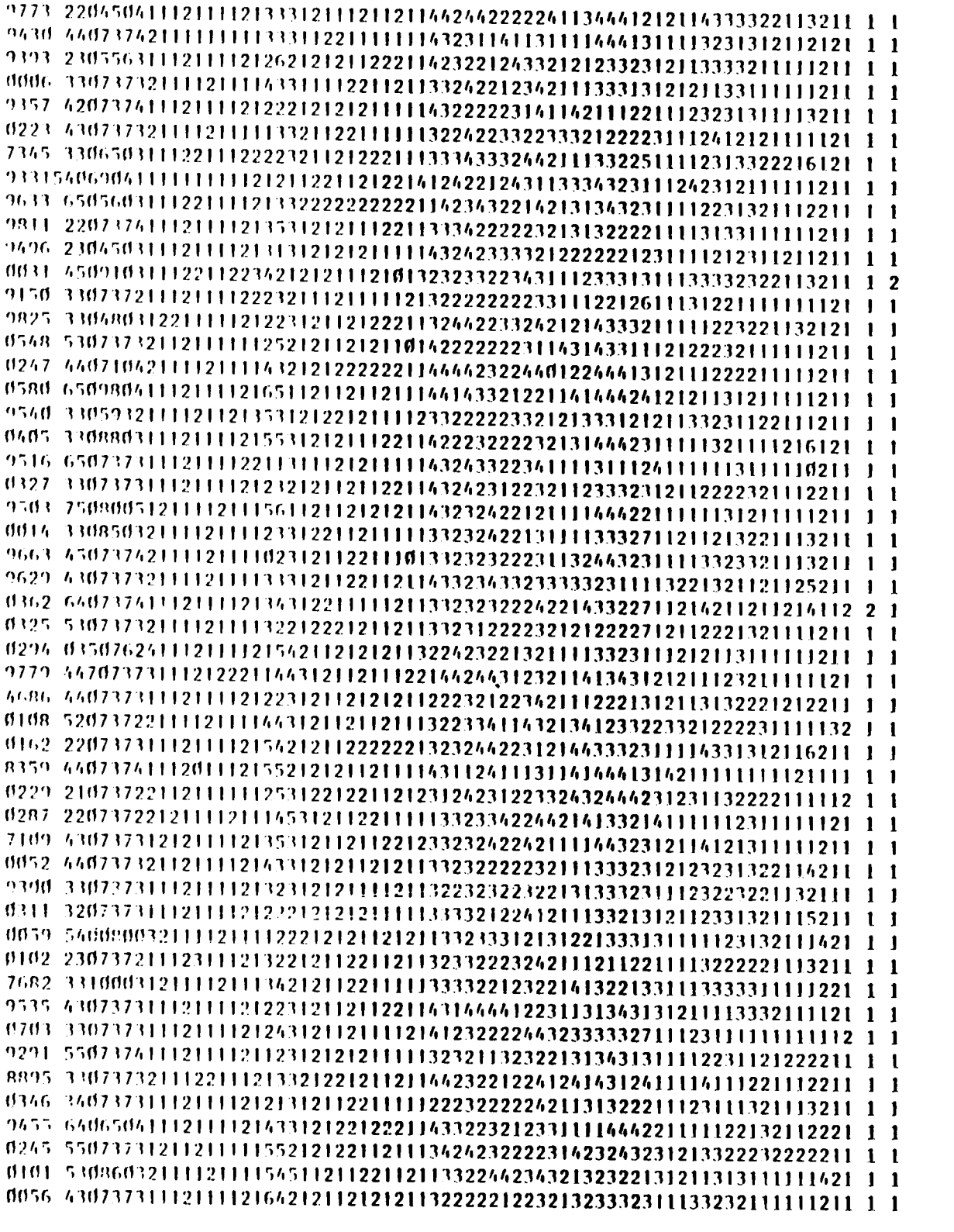
```
BEGIN DATA
9626 3307373111121111213321211221112133142312342132433121111233111214211 1 1
9855 5307373211111111214431211212112143324222112113133323111113331221114211 1 1
9515 5306003111121111211331212221212113324332223211133223111113121122113211 1 1
9264 2206603111121111212321211212121232132211232132444141212312321215211 1 1
9954 3307372211112111166212122222221322112234341413112321121132211113211 1 1
9392 5207373111121111213331211211221144232422221133133141212333321111211 1 1
9686 4307373111121211213111212111112133243332222211333323111242313211111212 1 1
7234 5407373111122111121421111221121133231212222221333121212133121111211 1 1
9282 5410503211111211113321211222222133223222233214332223121132311111211 1 1
9518 5507374111121111211131212212111144443222241331333231111131313211112211 1 1
0046 3307373111121111213321222112111133242322432112333312121121311111211 1 1
9120 4407373211111211214621211221122132242221342131333131212223111111111211 1 1
0249 2207372111121111213331211221121143232211141113133223111122313221111211 1 1
9110 4407373111121111213421211212122144243312141113133324121212233221141211 1 1
9281 5307373211212111113321211222111123324331213211322223211131212222211 1 1
0180 2307374211111211112322111221111143231222132141221131112223332111211 1 1
0365 2307373211111211124221212222121132232222122221133317121211232111111211 1 2
0587 3407373211111211113531112212121133431223434143333131211413232111211 1 1
9934 5307373111121211114521211222121133243322323112232221113232323221122211 1 1
0571 6307373111121111212431211212121133221122622213133123111212331111111211 1 1
0471 2007372211211111213231111221111133222212143131221221213123331111111111 1 1
9340 3307374211122112342121212111113322222332212132223121123213211111211 1 1
9916 6407373111121111113321212211111142232322232122433231111211113111111121 1 1
0195 5407373111121111214311211211111132232232422343333221111412132112112 1 1
0125 3107373211212111122212211211111422323121412112222711112111311111112 2 1
0599 3307373221121111214231211211211332423223421312211312111131111111211 1 1
9520 7403504211111211113431211221111111242223342134333231111141113212241211 1 1
9858 5308503121111211112331112121111131343222432233223231111221213111111211 1 1
0267 3307373121111211115321212212121133232312232131233161212221332111221 2 1
9950 4407373121112111115431211221121133442133143334433223111241231111211 1 2
0403 2207373111111111111131212211111213426342233211123113121212231111113211 1 1
0578 3307373111121111212231122112111113224232232211122213121122233211122211 1 1
9841 5407374211121111135112112211111244142412131111133313111131213111111221 1 1
0141 4407373111111211124221211212222142142312141143333241111421232121421 1 1
9601 6307373111111211211231212112111124311132322131121444121112121324422 1 1
0019 4407372111212112113311211222121133234232233211144313121123333211212 1 1
9730 5408000321111121111443121121212143244422132222222223121132313111111211 1 1
9599 3207373111111211213331212221112143222322422222422141212232111211321 1 1
9454 3307373211212111113212211211211332434221211414333231111231321111212 1 1
9272 5307374211112111113421212121111133242222132121333121111322132111212 2 1
0493 3307372211111111112421211222221122122132232223221141212223231121321 1 1
0473 3307372111111111112221112111111144242121241113211241111431112212221 1 1
0632 6307373111121111215221212121111144343322341112422231111212121111112 1 1
9621 2305603111121111211531212222212123442132221114333231211111313221122 1 1

0103 3307373211111211112431211212111132233223242141333231211232231211221 1 1
0543 5307374111221111212231111221111133244232241111333143211433321121321 1 1
9975 3307602111211111213531222112121133214343113212144423121111331111112 1 1
9295 6407374111111111111431211222222143334342241113144323111111322111321 1 1
0200 4307373111121111215212112221111321322122232323323311231313221232 1 2
```

```
9670 330700311112111121432121212111113323222123212132223121131213211142111 1 1
0131 640700311121111211431121121121143243422242121444131211213131111111211 1 1
9734 330737512111212111353121112121111321232222342423322232123133122113211 1 1
9533 330737411112111121133121212211213243123242233122123121341333211111211 1 1
0163 220737211121111215521212212121101322321223321211222511113131111112121 1 1
0354 330737321111211116511211222221133223421432131443221211213111111111211 1 1
9006 220837041211111121663112112211223223223223221324421311121232221111211 1 1
9540 530737321112221111323121221112114224221222123143423111112232211242111 1 1
9600 440737311112111121333121211211111341211123421123331312111311311111211 1 1
9793 530737321122211223231212221111133243311142211332113121143213211162111 1 1
9307 760700511121111211231212112111133344222331111114221111313131111111211 1 1
9951 220737221111211111561121212121101323422344421312111311123131111112121 1 1
0587 230737311111211112223111122212113232232223221143215121131111111112111 1 1
0289 530666031211122111133121122111113123212223232322223111142331111111211 1 1
9966 330640311111111111165212112211111332423224221413431312123231121113211 1 1
9504 330737311121111212321212122121232232211132122333231112322121121312121 2 1
0341 330737321111211113221222111121113223341223221222223111221113221142112 2 1
0570 540920222121111215621211211221141421112131112144417321312311112141122 1 1
9740 330680311121111213431211211221133242222433343333231112412332111112121 1 1
9352 230340311121111212331212111112144242322142113333141211111121111112111 1 1
9442 330737321111211111321211222221142211212342131333231211113111111122111 1 1
9548 330540221121111212521212112122143422212132121223231111323332112421111 1 1
4269 540920311121111212621211211211133423223111414133324111112321111111211 1 1
0269 440737311121111212422112111221144242411132111444133211332221121612121 2 1
9757 330580311121111214231212111212113122312243211132223121222333211131211 1 1
9661 430750311121111213331112111221133434212442141333231212122132111121111 1 1
9132 220490221111211112331111221111142312321422131221121111311111111142111 1 1
9842 430510311121111111221121221212114344442314113144322121131312111112111 1 1
0270 330670321111111112442121122222113223232233233132213121222123212222111 1 1
8715 530737311112111121133121121222223333242433213233313311123333211232111 1 1
9538 520737421111111111432111222211113323222223122133313211123113111112111 1 1
9175 540737321111121111143212112211101422123212421122221412111421311112141 2 1
0298 250737321111111111233211122212214222221222112114214121222113221242111 1 1
0517 210737311112111111231121121222113343222222311133313121112111221221211 1 1
0404 430737311112111121441121121223113323334213111133322111112312111111211 1 1
9315 230737221111111111333121122111113122122232211112113121122222111112231 1 1
9935 330737321111111111343122211211013334232113213132222211113122321112111 1 1
9367 320737321111121111333111122212113332322232311132211312113223111111121 1 1
0643 430737311111112121123121122111113322323222322323311121223222111112221 1 1
8699 330737312111221112532111211121134442412223111443131211223232121115211 1 1
9369 420560311112111121223121212111114424331222423423222321114131311114211 1 1
0409 430737321111121111243121122111113323232213134233327111113111111216112 2 1
0574 330737321111121111343121212222113324242212211134316122111113222221211 1 1
0076 340737311112111121252122122221211322243222321322221312123231311111211 1 1
0996 540737321122211222231212112121132222233222131321132111213131111111211 1 1
0595 430737311112111121133121122111013222432121111131112121141113211121211 1 1
0218 220737311112211122543121121111213224332242224333323111232311212132111 1 2
0253 440737311112111121113121212111113423212214242133313111223213112152111 1 1
0120 320900311112111121443121221121214324322214114143314121123113211141211 2 1
9662 340737321111121111123111212111113324232222321333222711113321311214112 1 2
8823 550900421111211111553121121211114224322231224443322111143111312161112 1 1
```



```
6503 5407208111121111211331211212121132422222242111211233112111113211112211  1  1
9687 6405604111211112133312121121211323322222322334332311113231321112211  1  1
9993 4410704121111211165312121121211342432421321414332332111211311111121  2  1
0638 3407373111111111212231111211222132341222142221333231111422311111211  1  1
7897 4307375111211112134312121111211132342222242111332221112423222111211  1  1
0577 3497372121111211143312121121111312233223422213222412122131111111211  1  1
0064 5407404111211112133112112212112332122224322322221312111221211111211  1  1
9419 4407372111221112222312121211211331414221411413321311123133311211211  1  1
9444 3307373111211111133312112222111142442222441111333221211313111111116211  1  1
0139 1107371121112111111331211221111122211144442121333131112213331111111121  1  1
0143 2207002211212111154111112222121132212221432211333131212123222111311112  1  1
0011 5407373111211112134312112221121332333222311314331312113231322123211  1  1
9586 3206504111211111122112112112111322442222441133331212112131111111211  1  1
0127 6207375121111211111121112221111332311333322212331311112131111111111112  1  1
9297 4307373111211112132212121211111422323222421113332311111322132111211  1  1
0090 5408003111211112135312112112211342224322411133331412124332321112211  1  1
0676 5408003111211112135312112112211321134114421414412221112131311111111112  1  1
0550 2307372111211112111312121112221322213223432211111612121322211113111  1  1
0344 7407374221222121235222212111221431442344211273212133222122221111111  1  1
9672 6507374121111211141312121121111432423221311213331312112323311111211  1  1
0569 5508503111211112144212112121211432344122411213432312112332222122211  1  1
9748 5207373211111111111231111111111013324131213323124314121112222111112211  1  1
0205 3307372111211121033112122111121432443121311113321312112333131121321l  1  1
0061 5407373211112111124212112221211442223222421113312411113231321111211  1  1
9273 3307503211112111152312112121211431422121311123322311124223321112211  1  1
9421 7607374111211111211221212121111143242322121132444231111111113111111211  1  1
9314 2206102211112111133212121111211322222233222212212221311112131321l1  1  1
9460 5507373111221112111312221211111133242111231141333231111113132111221l  1  1
9484 4407373111121111235212112111221333232121331121333214121123213211111211  1  1
9308 2207502111211111215211211221111133233222322112221312111121322114211  1  1
0097 3307083111211111213421211212111132222222322132333231111323222211211  1  1
0292 6407653211212111133312112211111324232232212233323111143311111111211l  1  1
0217 6407374211112111123312211211111332333223452234443231111412131111121  1  2
0626 6507373111211111211222122121211211322332122223123332711212131111111112  2  1
0221 6507373111211111211222122121211211322332122223133332711114212311216121  2  1
0484 3407373211111211115421211212121133343332432141332141212122221111211  1  1
9512 3307373111211111213421211221111143232212332132332221111133232211321l  1  1
9797 5407374211111111113231212212121131232233322122322711213111321115111  1  1
9337 3304603111122111221221212212212142232212232121322231211111213221121211  1  1
0130 5507373111211111211131212222211144244422222122132223111143213111121  1  1
0331 7608405211112111155212112112111341332111131121444231121121313111111112  1  1
9316 3106303111121111215312212112111211342221212411414444231111123221125121  1  1
0474 4407373111211111215521212111121132322224321311333231211133121111612  1  1
9543 4407373111211111213321212122121133243212122134332141211422132111421l  1  1
9920 2407373121111211111332121212111114322323234111131111312112133121112211  1  1
9615 3307372111211111211231212222111113122212233213133213121212322121122l1  1  1
9774 5307373111211111213521211222111243242412431111132221311111323222111221l  1  2
0268 3207373111211111214531211222122134244322232111322121111123212111121l  1  1
0565 3073732111112111115312121111121432423114311433322312113222132121312l1  1  1
0602 2307374111111111112331111212212114314332123111132314121122311111111121  1  1
9714 5407373211111211111342121212112114324331122421413332312111211311111211  1  1
```





```
0289 1306202111211111214521211221121233232222142121332131211332322111221 1 1
9360 3307374111211112233111211212123323111214224122121211111232211113211 1 1
0686 3407373111211112115312122121211222111144114131343131211422222221211 1 1
0134 3307373111211112154212112222111141242221214214133323111111322111142l1 1 1
9868 3307373111111111113321111221111132222322232121222131212133131111121l 1 1
9642 5407372111211111235312112111121332432213321113212311113231211116211 1 1
9263 8107374111221112133312122222211412432122241113332211111333221121212 1 1
9257 4406503111211112126312112211111131213212142212232231211123132111121l 1 1
9294 4407104211112111145211211212111441332112411213332311111111321111211 1 1
0016 3307373211112111113321211212111133134411241111433141211113111111113211 1 1
0187 5407373211212111154321122222221233344231431312114111233233221202111 1 1
0290 3407373111212211113331211222111222342223122121332141211133312211321l 1 1
0716 3107372211111111112331211212111144222312234133334141211311331111131l 1 1
9676 2207374111221112236312112211111332433234422114331312113123111116211 1 1
9554 4307373211111211114411211222121133232621242111323231112123111111321l 1 1
9992 4307374111111111221521211221112134322232244113331231211412132111321l 1 1
9305 6507503211122111245212121112211321332224321313431312113232221113211 1 1
0121 5307373121111211123212112121212222441434331113221711124222211113221 1 1
9625 3407374111111111112221212112221132344313222111222141211222221111221l 1 1
9921 3320737311112111121333121122211133443124222131433221212211131111121l 1 1
0631 5407374111211112122212121212211322422223323123332511123121311111121 1 1
0568 6407373211111111115611112111221133244322241141444231111123121121512l 1 1
9754 2306963111111111213331212221111142342222342121222522122333321113211 1 2
0527 3407374111211112122312112121212134243422231221111231111232131111321l 1 1
9790 4507372211111111214311111122111115352221323233122131212321131111121l1 1 1
0588 5407373111211112113312122121211431424111312314322311111131321111211 1 1
2514 4307372111221112132311222122122332323222321112432711224111321114112 1 1
0291 2207373111211111123312112121111333322232321113322312111111322114211 1 1
0407 2207373111111111113331212111112132211221142131111121112222112111121l 1 1
9669 2207373111111112113431212121111132241322132232322243112411132111521l1 1 1
0266 3307374211112111122312121121111332433322321413441311141113121151112 1 1
9814 2207372111211111222312121211111312323234322332231312114132321112212 1 1
0591 3207374111211112133312112211111322422231421221211141211222312113211 1 1
9949 5307373111111111222321121221222442333333311314444141111133322112424l2 1 1
0373 5307373111221111112211222211121322222323211222214121221121111121l11 1 1
END DATA
/*
```

WORKSHEET II

REGRESSION WEIGHTS
COMPUTER WORKSHEETS

WORKSHEET PART I

VARIABLE NAME	REGRESSION WEIGHTS (mean value) white men	white women	blacks in black colleges
1. AVERAGE HS GRADE (A+=8, A=7, B+=6, B=5 B-=4, C+=3, C=2, D=1)	-.04725 (4.2839)	-.03737 (5.2047)	-.04122 (4.1426)
2. RANK IN HS CLASS (TOP 1 PERCENT=6, TOP 10 PERCENT=5, TOP QUARTER=4, SECOND QUARTER=3, THIRD QUARTER=2, FOURTH QUARTER =1)	-.02978 (3.4567)	-.01205 (3.9201)	-.02080 (3.7548)
3. COLLEGE ADMISSION TEST (SAT)	-.00014 (984)	-.00029 (1002)	-.00006 (737)
4. STUDENT'S ACADEMIC RATING OF HS (VERY HIGH=5, FAIRLY HIGH=4, ABOUT AVERAGE=3, PROBABLY BELOW AVERAGE=2, DEFINITELY BELOW AVERAGE=1)	-.00864 (3.9474)	-.01474 (4.0185)	-.02937 (3.6809)
FAMILY BACKGROUND			
5. RELIGION REARED-PROTESTANT (YES=2, NO=1)	-.05389 (1.5130)	-.01620 (1.5418)	-.12747 (1.5555)
6. RELIGION REARED-CATHOLIC (YES=2, NO=1)	-.12124 (1.3337)	.00000 (1.3222)	-.36613 (1.1533)
7. RELIGION REARED-JEWISH (YES=2, NO=1)	-.10309 (1.0590)	-.05026 (1.0627)	.00000 (1.0000)
8. RELIGION REARED-OTHER (YES=2, NO=1)	-.05328 (1.0606)	-.09660 (1.0443)	-.14687 (1.3500)
9. RELIGION REARED-NONE (YES=2, NO=1)	-.13312 (1.0251)	.02576 (1.0222)	-.31821 (1.0154)
10. RELIGION NOW-PROTESTSNT (YES=2, NO=1)	-.03078 (1.4435)	-.02740 (1.4817)	-.02371 (1.4928)
11. RELIGION NOW-CATHOLIC (YES=2, NO=1)	.00000 (1.3031)	-.07613 (1.3033)	.13241 (1.0666)
12. RELIGION NOW-JEWISH (YES=2, NO=1)	-.11986 (1.0511)	-.08210 (1.0549)	-.43754 (1.0010)

13. RELIGION NOW-OTHER (YES-2, NO-1)	.05581 (1.0696)	.07450 (1.0567)	-.00353 (1.3191)
14. RELIGION NOW-NONE (YES-2, NO-1)	.07461 (1.1082)	.08703 (1.0762)	.04624 (1.0388)
15. FATHER'S EDUCATION GR SCHOOL OR LESS-1 SOME HS-2, HS GRAD-3, SOME COLLEGE-4, COLLEGE GRAD-5, PTGRAD DEGREE-6	-.01691 (2.4280)	-.01066 (3.6487)	-.02431 (2.4645)
16. MOTHER'S EDUCATION GR SCHOOL OR LESS-1, SOME HS-2, HS GRAD-3, SOME COLLEGE-4, COLLEGE GRAD-5, PTGRAD DEGREE-6	-.01005 (3.2933)	-.01580 (3.4829)	.00237 (2.7584)
17. STUDENT'S CONCERN ABOUT (NO CONCERN-1, SOME CONCERN-2, MAJOR CONCERN -3)	.00405 (1.7418)	.03917 (1.7353)	.05743 (2.9660)
18. RACE ORIENTAL (YES-2, NO-1)	-.07395 (1.0112)	-.09539 (1.0101)	-.08553 (1.0009)
19. RACE-OTHER (YES-2, NO-1)	.03314 (1.0114)	.09119 (1.0075)	-.04165 (1.0016)
20. LIVED ON A FARM MOST OF TIME GROWING UP (YES-2, NO-1)	.01963 (1.0881)	-.04256 (1.0892)	.01104 (1.1246)
21. LIVED IN A SMALL TOWN MOST TIME GROWING UP (YES-2, NO-1)	.05581 (1.1863)	-.01255 (1.1963)	.05125 (1.2373)
22. LIVED IN A MODERATE SIZE CITY OR TOWN MOST OF TIME GROWING UP (YES-2, NO-1)	.01292 (1.3202)	-.01497 (1.3291)	.00306 (1.3522)
EDUCATIONAL ASPIRATIONS			
23. HIGHEST DEGREE PLANNED-BACHELOR'S (YES-2, NO-1)	.11867 (1.3693)	.03666 (1.5135)	.05649 (1.3324)
24. HIGHEST DEGREE PLANNED-MASTER'S (YES-2, NO-1)	.04466 (1.3422)	-.02476 (1.3662)	-.01410 (1.4016)

25. HIGHEST DEGREE PLANNED-PH.D. OR ED.D. (YES-2, NO-1)	.00134 (1.1653)	.00525 (1.0640)	.01827 (1.1922)
26. HIGHEST DEGREE PLANNED-PROFESSIONAL (YES-2, NO-1)	.00000 (1.0943)	.00000 (1.0234)	.00000 (1.0498)
27. HIGHEST DEGREE PLANNED-OTHER (YES-2, NO-1)	.23581 (1.0289)	.25788 (1.0329)	.13189 (1.0240)
28. EXPECT TO BE AN ENGINEER (YES-2, NO-1)	.06081 (1.1603)	.20798 (1.0029)	-.07980 (1.0259)
STUDY HABITS DURING LAST YEAR			
29. TURNED IN ASSIGNED WORK ON TIME (ALWAYS-4, USUALLY-3, SOMETIMES-2, RARELY OR NEVER-1)	-.03209 (3.4194)	-.02522 (3.6149)	-.03638 (3.4740)
30. DID HOMEWORK AT THE SAME EVERY DAY (ALWAYS-4, USUALLY-3, SOMETIMES-2, RARELY OR NEVER-1)	-.02189 (2.2512)	-.00759 (2.4311)	-.00282 (2.0193)
31. MADE CARELESS MISTAKES ON A TEST (ALWAYS-4, USUALLY-3, SOMETIMES-2, RARELY OR NEVER-1)	-.01530 (1.9948)	-.04688 (1.9143)	-.02100 (2.0254)
32. KEPT STUDY PLACE AND DESK NEAT (ALWAYS-4, USUALLY-3, SOMETIMES-2, RARELY OR NEVER	.01468 (2.8262)	.00943 (2.8903)	-.00892 (3.0963)
33. DID EXTRA CREDIT WORK (ALWAYS-4, USUALLY-3, SOMETIMES-2, RARELY OR NEVER-1)	.01195 (1.8316)	.02843 (2.0146)	.03601 (2.6603)
34. CAREFULLY WENT OVER DIAGRAMS OR TABLES IN TEXTBOOKS (ALWAYS-4, USUALLY-3, SOMETIMES 2, RARELY OR NEVER-1	.01686 (2.5305)	.00555 (2.5781)	.02875 (2.6603)

35. WAS TO BORED TO STUDY (ALWAYS-4, USUALLY 3, SOMETIMES-2, RARELY OR NEVER-1)	.00899 (1.8097)	.02822 (1.6429)	.00246 (1.5772)
36. HAD TROUBLE CONCENTRATING ON ASSIGNMENTS (ALWAYS-4, USUALLY-3, SOMETIMES-2, RARELY OR NEVER-1)	.02058 (1.9507)	-.00619 (1.8161)	.02073 (1.9156)
37. STUDIED WITH RADIO OR RECORD PLAYER ON (ALWAYS-4, USUALLY-3 SOMETIMES-2, RARELY OR NEVER-1)	.01351 (1.8214)	.01715 (1.7597)	.05995 (1.8294)
38. STUDIED ALONE (ALWAYS-4, USUALLY-3 SOMETIMES-2, RARELY OR NEVER-1	.00024 (3.3935)	.00000 (3.4013)	-.05626 (3.1761)
39. FAILED TO COMPLETE HOMEWORK ASSIGNMENTS ON TIME (FREQUENTLY-3, OCCASIONALLY -2, NOT AT ALL-1)	.03399 (1.7355)	.02664 (1.5261)	.00646 (1.6625)
EXPECTATION ABOUT COLLEGE			
40. DROP OUT TEMPORARILY (NO CHANCE-1, VERY LITTLE CHANCE-2, SOME CHANCE-2, VERY GOOD CHANCE-4)	.04462 (1.6260)	.00303 (1.6345)	.00776 (1.6396)
41. TRANSFER BEFORE GRADUATION (NO CHANCE-1, VERY LITTLE CHANCE-2, SOME CHANCE-3, VERY GOOD CHANCE-4	-.01596 (2.3197)	-.00540 (2.3496)	-.04557 (2.0102)
42. GET MARRIED IN COLLEGE (NO CHANCE-1, VERY LITTLE CHANCE-2, SOME CHANCE-3, VERY GOOD CHANCE-4)	.02052 (2.0252)	.04281 (2.1971)	.00264 (1.9363)
43. OBTAIN OVERALL GPA OF A- (NO CHANCE-1, VERY LITTLE CHANCE-2, SOME CHANCE-3, VERY GOOD CHANCE-4)	.03869 (2.2579)	.04190 (2.19560	.00279 (2.6146)
44. GRADUATE WITH HONORS (NO CHANCE-1, VERY LITTLE CHANCE-2, SOME CHANCE-3,	.02306 (2.4842)	-.00069 (2.3768)	.01788 (2.6146)

45. BE ELECTED TO AN ACADEMIC HONOR SOCIETY (NO CHANCE-1, VERY LITTLE CHANCE 2, SOME CHANCE-3, VERY GOOD CHANCE-4)	-.02961 (2.1236)	-.02492 (2.2183)	.02462 (2.3158)
OTHER STUDENT CHARACTERISTICS			
46. SEX (MALE-1, FEMALE-2)	.00000 (1.0000)	.00000 (2.0000)	-.01973 (1.5739)
47. AGE AT COLLEGE ENTRY (16 OR YOUNGER-1 17-2, 18-3, 19-4,20-5, 21-6, OLDERTHAN 21-7)	.00357 (3.3403)	.03867 (3.1341)	-.01379 (3.3206)
48. SMOKED CIGARETTES IN HS (FREQUENTLY-3, OCCASIONALLY -2, NOT AT ALL-1)	.02550 (1.5937)	.03566 (1.4551)	.11826 (1.4484)
49. WON VARSITY LETTER IN HS (YES-2,NO-1)	-.05242 (1.4533)	-.02740 (1.1450)	.00463 (1.2403)
50. MARRIED WHEN ENTERING (NO -1, YES-2)	-.08417 (1.0178)	.10658 (1.0198)	.02116 (1.0191)
51. OVERSLEPT AND MISSED A CLASS OR APPOINTMENT IN HIGH SCHOOL (FREQUENTLY-3, OCCASIONALLLY -2, NOT AT ALL-1)	-.01238 (1.2407)	.00734 (1.1552)	.03253 (1.2412)
52. ESTIMATE CHANCE OF MARRYING WITHIN YEAR AFTER COLLEGE (NO CHANCE-1, VERY LITTLE CHANCE-2, SOME CHANCE-3, VERY GOOD CHANCE-4)	-.00759 (2.5669)	-.00998 (2.7353)	.02424 (2.3292)
SOURCES OF FINANCIAL AID DURING FRESHEN YEAR			
53. PERSONAL SAVINGS AND/OR EMPLOYMENT (MAJOR SUPPORT -3, MINOR SUPPORT-2,NOT A SOURCE-1)	.00189 (2.102)	.00443 (1.804)	-.00225 (1.510)
54. PARENTAL OR OTHER FAMILY AID (MAJOR SUPPORT-3, MINOR SUPPORT-2, NOT A SOURCE-1)	-.01243 (2.194)	-.02534 (2.485)	-.00548 (1.920)

55. PEEAYABLE LOAN (HAJOR SUPPORT-3, HINOR SUPPORT -2, NOT A SOURCE-1)	03052 (1.340)	-.00553 (1.399)	.00474 (1.792)
56. SCHOLARSHIP, GRANT, OR OTHER GIFT (HAJOR SUPPORT -3, HINOR SUPPORT=2, NOT A SOURCE=1)	-.02177 (1.470)	-.01130 (1.533)	-.01819 (1.809)
WORK STATUS DURING FRESHMEN YEAR			
57. FEDERALLY SPONSORED WORK-STUDY PROGRAM (YES=2, NO=1)	-.02007 (1.024)	-.04994 (1.052)	-.15420 (1.111)
58. OTHER ON-CAMPUS WORK (YES=2, NO=1)	-.03132 (1.063)	-.03949 (1.086)	-.00036 (1.044)
59. OFF-CAMPUS WORK (YES=2, NO=1)	-.07779 (1.219)	-.04612 (1.151)	.04234 (1.075)
60. EMPLOYMENT FOR COLLEGE CREDIT AS PART DEPARTMENTAL PROGRAM (YES=2, NO=1)	-.04905 (1.021)	.03811 (1.004)	.39389 (1.002)
61. NUMBER OF HOURS WORKED PER WEEK (25 OR MORE -6, 20-24-5, 15-19=4, 10-14-3, 5-9-2, FEWER THAN 5-1)	.01898 (3.425)	.01069 (2.830)	-.01641 (2.941)
PLACE OF RESIDENCE DURING FRESHMEN YEAR			
62. COLLEGE DORMITORY (YES-2, NO=1)	-.12709 (1.505)	-.12237 (1.642)	-.13246 (1.686)
63. WITH PARENTS (YES-2, NO=1)	.00865 (1.382)	-.01113 (1.302)	.02303 (1.247)
64. OTHER (YES-2, NO=1)	.00000 (1.114)	.00000 (1.067)	.00000 (1.067

APPENDIX E

STUDENT PROFILE

The following profile sheets in Appendix E can be used as reference sheets in the advisement of incoming freshmen.

PAGE 146....CONFIDENTIAL PROFILE SHEET
when completed, can be provided to the appropriate Human Resource person who will assist in the retention of the predicted withdrawee.

PAGE 147....Identified Withdrawn Students Based on Chances in 100.

PAGE 148....Interval Rank of Chances in 100 of withdrawing will list every student and his rank in the class.

PAGE 149....Predicted Chances in 100 of Dropping Out..will have listed every student who completes the questionnaire and his chances of withdrawal.

CONFIDENTIAL
INDIVIDUAL STUDENT PROFILE
SHEET

Name _____ Sex_____ Honors Pg._____

SAT Score_____

PREDICTED CHANCE OF WITHDRAWAL

_____ Reading _____

Math_____

Upper/Lower_____ Full/
Part-Time_____

.....

Requested Advisor_____ Class Advisor_____

.....

Size of Hometown..... Population_____

Place of Residence..... Permanent_____

Present_____

Place of Work..... Campus_____

Off-Campus_____

Grade Point Average..... High School_____

College_____

EXPECTED MAJOR_____

.....

RECOMMENDATION:_____

_____

_____

_____

Table 11

Identified Withdrawn Students Based on Chances in 100

N=20

ID #	Chances in 100	ID #	Chances in 100	ID #	Chances in 100
0473	31.7	0630		0565	37.2
0950		0957		9690	
9701		0471		9749	
9255		9282		9783	
0599	37.4	0339		0388	
0582		9588		0900	
0092		0245	18.5	2514	40.4
0649		9963		6657	31.8
0313		0611		9379	34.7
0276		9392	16.7	9793	16.9
0597	16.7	9284	37.7	9473	37.4
9522		9288	42.2	6992	40.2
0370		8493		9925	
0054		0848		0560	
9714	40.4	9516	35.8	0659	
0572		0644		9683	
0368		0706		0418	
0108	37.8	0151		0144	
9520	38.2	9669	17.3	7085	
0550	32.3	8484		0128	
0901		9422		8503	
9108		0640		0904	

Table 12

Chances in 100 of Dropping Out

(Intervals of 4/N=334)

Scored Chances of Dropout	Frequency	Proportion Per Interval	Percentage Per Interval
10.0 - 12.9	-0-	-0-	-0-
13.0 - 15.9	16	.047	4.7
16.0 - 18.9	53	.153	15.3
19.0 - 21.9	5	.015	1.5
22.0 - 24.9	2	.006	.6
25.0 - 27.9	-0-	-0-	-0-
28.0 - 30.9	21	.062	6.2
31.0 - 33.9	52	.153	15.3
34.0 - 36.9	72	.229	22.9
37.0 - 39.9	66	.194	19.4
40.0 - 42.9	37	.109	10.9
43.0 - 45.9	9	.026	2.6
46.0 - 48.9	1	.003	.3
49.0 - 51.9	-0-	-0-	-0-
	334	.997	99.7

STUDENT ID	CHANCE OF DROPOUT	STUDENT ID	CHANCE OF DROPOUT
9626	33.08	9784	39.50
9855	16.31	9533	17.53
9515	36.19	0163	36.75
8264	32.97	0354	43.98
9954	39.35	9006	18.14
9392	17.53	9530	16.21
9686	16.71	9600	34.20
7234	15.89	9793	16.93
9282	38.83	9307	35.09
9518	38.64	9951	39.49
0036	38.86	0583	40.06
9120	41.51	0289	35.63
0249	32.67	9966	18.24
9110	34.98	9504	31.44
9281	36.72	0341	33.13
0180	30.79	0570	39.54
0365	17.22	9740	42.64
0587	43.15	9352	40.46
9934	17.23	9442	36.12
0571	15.68	9548	30.52
0471	31.65	4269	37.95
9340	16.71	0269	34.44
9916	37.78	9757	30.91
0195	17.51	9661	40.05
0125	36.39	9332	15.09
0599	37.42	9842	42.67
9520	38.23	0270	37.52
9858	38.74	8715	36.95
0267	37.51	9538	35.65
9950	43.64	9175	28.57
0403	32.87	0298	15.30
0578	14.89	0517	15.90
9841	36.89	0404	36.97
0141	36.48	9315	13.67
9601	14.99	9935	34.97
0019	33.54	9367	16.00
9730	39.96	0648	15.90
9599	17.63	8699	17.34
9454	16.92	9369	39.16
9272	34.33	0409	36.71
0493	30.89	0574	17.83
0473	31.69	0076	16.92
0632	40.55	0996	16.39
9621	17.33	0595	30.40
0103	35.67	0218	19.16
0543	35.17	0253	30.81
9975	40.84	0320	38.41
9295	40.26	9662	34.34
0200	16.93	8823	40.00
9670	33.14	6503	33.06
0131	40.12	9687	37.90

*NOTE: Entire subset chances of withdrawal

STUDENT ID	CHANCE OF DROPOUT	STUDENT ID	CHANCE OF DROPOUT
9993	45.29	0096	17.02
9638	36.44	9946	37.21
7897	37.11	9311	17.01
0577	19.03	0007	33.78
0964	36.54	0467	36.25
9419	35.44	9656	32.22
9444	36.41	9737	38.90
0138	32.95	0063	34.73
0143	34.11	0594	39.98
0011	35.13	9644	34.67
9586	38.01	9756	24.05
0127	35.66	9703	39.75
9297	34.38	0246	18.02
0090	38.06	9474	38.51
0676	38.52	0619	14.98
0550	32.29	0374	15.90
0844	45.88	9523	32.24
9672	35.11	0326	35.67
0569	35.63	9727	31.90
9748	32.92	7616	17.61
0295	31.09	9800	38.02
0061	35.94	0329	15.39
9273	34.02	1984	20.05
9421	16.78	0593	34.42
9114	33.09	0248	30.62
9460	32.08	0360	29.53
9481	34.35	0010	38.55
9808	30.28	0070	35.68
0097	16.31	9948	40.44
0292	17.81	9645	31.54
0217	41.90	0312	41.23
0626	22.11	9288	42.24
0221	18.16	9302	32.79
0484	42.45	0154	36.67
9431	19.14	0076	32.05
9512	30.69	9098	16.42
9797	38.13	9473	37.44
9337	33.37	8819	43.19
0130	16.40	9537	38.83
0331	38.90	9583	39.36
9316	33.16	0201	41.17
0474	34.09	9763	41.69
9543	17.22	9573	38.59
9920	32.81	9759	42.58
9615	30.40	9458	31.70
9774	34.67	9299	31.91
0268	37.94	9379	34.71
0565	37.17	0256	28.00
0602	36.17	9353	36.54
9714	40.37	0252	34.01
0214	29.77	9587	33.56

*NOTE: Entire subset chances of withdrawal

STUDENT ID	CHANCE OF DROPOUT
0358	15.83
6992	0.25
0267	20.05
9382	15.39
9266	43.17
9840	33.16
0369	15.60
0181	34.44
0399	29.41
0099	36.65
0111	35.92
9705	31.64
9550	19.36
0030	35.33
9306	32.98
0119	43.00
9667	37.83
9838	17.83
9824	16.72
9722	35.27
9767	38.63
9580	36.76
9259	35.07
0156	38.56
9933	42.63
9690	42.35
4981	36.23
0597	16.72
9516	18.24
0145	31.91
0600	29.35
0198	37.33
9690	16.72
9141	45.72
0658	17.20
0653	32.95
9378	37.57
0055	32.90
0340	37.48
9977	40.33
7754	36.00
9701	39.93
6657	31.81
9912	37.17
9528	35.74
8651	36.42
0357	17.82
9922	39.46
0260	37.29
0277	38.15
9771	18.06

STUDENT ID	CHANCE OF DROPOUT
9430	33.05
9393	37.04
0006	37.02
9357	31.47
0223	35.67
7345	33.93
9331	37.99
9633	38.42
9811	38.74
9496	16.31
0031	33.29
9150	34.68
9825	35.50
0548	33.78
0247	41.06
0580	18.92
9540	35.89
0405	36.54
9516	35.77
0327	34.77
9503	17.70
0014	34.76
9663	31.87
9629	39.59
0362	41.36
0325	35.62
0294	36.40
9779	18.43
4686	30.86
0108	37.79
0162	38.23
8359	42.11
0229	42.20
0287	41.67
7109	18.73
0052	34.09
9300	16.42
0311	27.99
0059	29.42
0102	31.54
7682	16.32
9535	17.32
0703	46.02
9291	15.49
8895	41.05
0346	32.41
9455	37.34
0245	18.55
0101	39.58
0056	39.15
0288	34.59

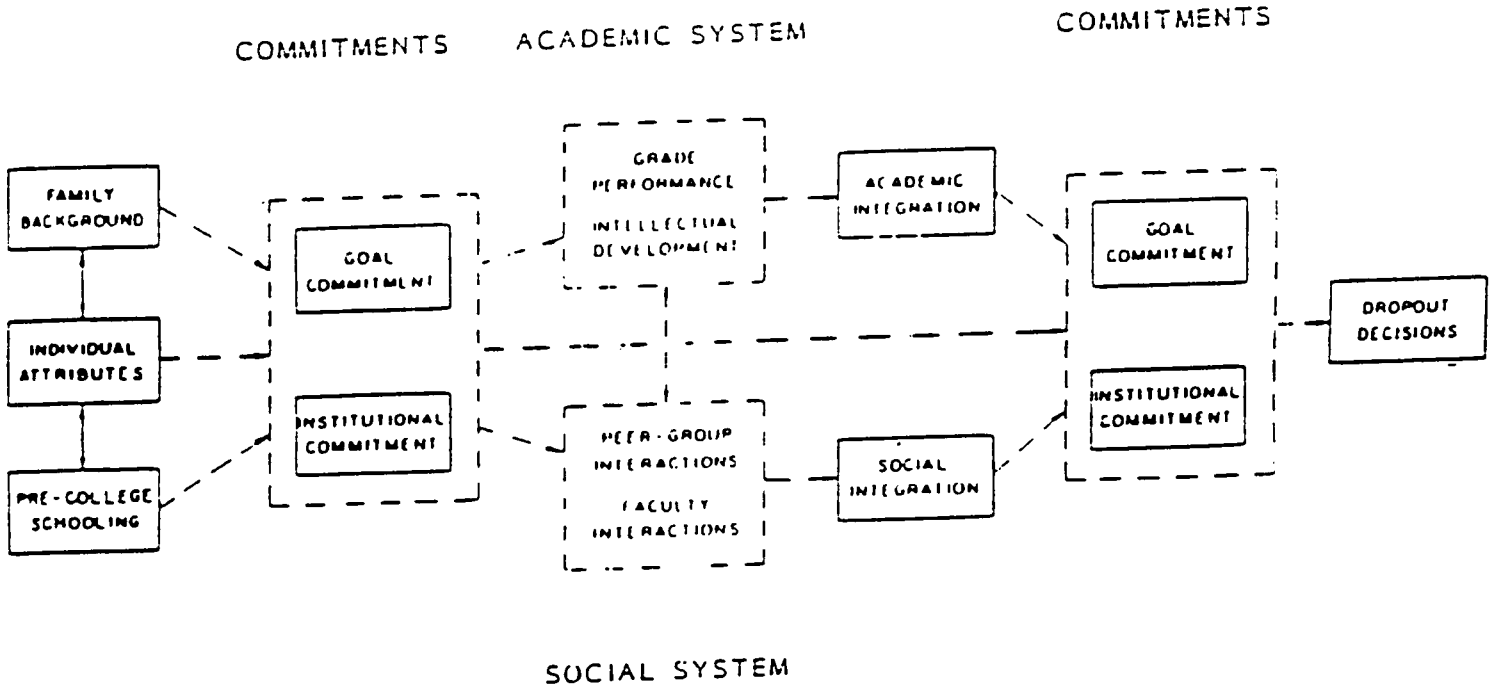
*NOTE: Entire subset chances of withdrawal

STUDENT ID	CHANCE OF DROPOUT
9160	33.13
0686	31.41
0134	35.32
9868	30.05
9642	32.05
9263	16.61
9257	32.72
9284	37.69
0016	35.92
0187	41.75
0290	16.01
9716	38.52
9676	41.22
9554	36.22
9992	42.03
8305	37.64
0121	38.50
9625	15.90
9921	18.23
0631	40.37
0568	37.47
9754	34.03
0527	33.65
9790	38.95
0508	35.04
2514	40.39
0291	32.67
0407	30.39
9669	17.33
0266	38.06
9814	34.65
0591	31.87
9949	35.31
0171	35.88

NOTE: Entire subset chances of withdrawal.

APPENDIX F

TINTO'S CONCEPTUAL SCHEMA FOR DROPOUTS FROM COLLEGE



SOURCE: Braddock (1981: 406)

VITA

The _4__ page vita has been removed from the scanned document

The vita has been removed from the scanned document

The vita has been removed from the scanned document

The vita has been removed from the scanned document